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ORIGINAL DEPARTMENT.

LECTURE.

HYSTERIA AND RHEUMATISM.

Clinical Lecture, delivered at the Neckar Hospital,

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Translated for the MEDICAL AND SURGICAL REPORTER.

GENTLEMEN:—In bed No. 20, of the St. Adelaide ward, is a patient with a very interesting history; during the last months the symptoms she has presented have been so complex that they have completely puzzled a very able physician, so much so as to cause him to formulate successively the following diagnoses: Meningitis, suppurating otitis, typhoid fever, hysteria, rheumatism; his treatment was without beneficial effect. The patient but yesterday entered the hospital, and, by a very remarkable coincidence, the treatment we have instituted in accordance with our opinion regarding the diagnosis of the case has, by the unhoped for effects already obtained, assured us of the exactitude of our suppositions.

The patient is a woman, thirty years of age, mother of two children. Her health is generally good and she is of robust constitution. During her early years she was somewhat nervous, but without any special symptoms. Four or five years since she suffered from attacks of which she can give no very good description, she was a prey to violent agitation, accompanied by delirium and unconsciousness; all phenomena, very probably, of hysteric nature. Since recovery from these attacks she became much more nervous than before, more impressionable; weeping without adequate cause, very easily irritated; and this state was aggravated by increased fatigue and family troubles.

Pain in the head caused her great suffering, and gradually became worse. One day, after washing clothes for some time at the river, she became somewhat chilled, and the pain from which she had long suffered, on the left side of the head, became almost intolerable; in leaving the washing-boat she was obliged to cover that side of the face, to avoid contact with the air. Eight days later she returned to wash at the same boat, and working vigorously she became heated, and while in this state she was completely wetted by the falling rain, in returning to the house; her head, being uncovered, suffered particularly.

That evening she suffered from very intense pain in all the left side of the head, face and neck; the slightest movement rendered the pain almost intolerable, so that eating was impossible, and liquids were swallowed with difficulty.

There was no fever. In the midst of the attacks vomiting of blood supervened; the ear and the external meatus became painful; the anguish continued unabated, notwithstanding energetic and varied treatment. Chloroform simply suspended the pains during the duration of the anæsthesia; very shortly after the pain was as marked as before the administration of the drug. It is under such conditions that the patient presented herself, on her entrance into the hospital. There was complete apyrexia; the pulse was feeble, but normal; there was no trouble of respiration. The pain in the head was intense, and particularly localized at the sinciput, so much so that the head had been shaved and a blister applied at this point, from which the pain extended

to the occiput and external ear, which was very sensitive. The pain was continuous, but with exacerbations from time to time, particularly when the least pressure was made over the painful parts. Cutaneous sensibility was diminished over the entire left side of the body, with anæsthesia and analgesia of the same side.

At the same time the organs of sense seemed to participate in the abnormal state; the sight was not clear; the ticking of a watch was not heard at the left ear; the patient was unable to recognize the odor of vinegar; taste even did not seem normal.

All the movements were intact, with the exception of a little peculiarity, which led me formerly to suspect simulation, but which I have since observed with sufficient frequency to merit mention.

When, after covering the patient's eyes, the left hand of the patient is touched with the extremity of the fingers, the hand opens and seizes vigorously first the fingers and then the hand of the observer. This fact proves, then, that anæsthesia really exists, and is not simulated.

In reality, there exists a certain sensibility, distinct from the sense of touch, and which I am tempted to believe is due to muscular sensibility. It is what Duchenne, of Bologne, long since styled motor aptitude, independent of sight; it is the same phenomenon which I have observed limited to the interosseous muscles of the hand in hystero-epilepsy. I do not suppose that these effects are due to any special aptitude, or to any special sensibility limited to the muscles; but I think that when cutaneous sensibility has disappeared from the hand, there may persist a certain amount of sensibility, sufficient to enable the patient to feel any object placed in the hand, and to execute the movements necessary for seizing it.

Such were the symptoms observed in this case; it was necessary to arrive at a correct interpretation of them in order to determine the nature of the malady. The first point completely established by these considerations is that the patient is hysteric. The hemianæsthesia exactly limited to one-half of the body, affecting tactile sensibility and the special senses, and without being accompanied by muscular trouble or intellectual derangement, can be due only to hysteria. This opinion is corroborated by the existence of gastralgia, rachialgia and pleurodynia on the left side. The existence of hysteria is then incontestable; this patient was under the influence of hysteric troubles, partly brought on by family cares and troubles, and aggravated by prolonged fatigue.

But because this woman is manifestly hysteric, it should not be concluded that all the pathologic symptoms she presents are due to hysteria; this would be a serious error. Just as a patient suffering from chronic symptoms due to lead or alcohol, may present lesions entirely independent of the toxic effects due to these two substances, so the general state of hysteria in this case does not necessarily prove that the symptoms from which she had suffered were of hysteric origin. The etiology of these symptoms is against such a supposition, for they appeared under the influence of a well-determined cause: the chill, determined by the wetting she received when thoroughly heated and sweating after vigorous and prolonged labor.

This cause is evidently the point of departure of the entire pathologic processes which followed. Such causation does not evidently belong to hysteria, but is the most frequent origin of rheumatism.

We should, then, on the one hand, accept the hypothesis of hysteria; on the other, that of rheumatism. But what part was due to hysteria? What proportion to rheumatism? Both affections present analogies at various points of view, as regards symptoms, etiology, and even as regards the organs affected. In effect, hysteria, like rheumatism, attacks all organs, skin, muscles, articulations, viscera. In hysteria, hyperæsthesia and anæsthesia of the skin are common phenomena, but the rheumatic subject presents epicrania, which is but one form of excessive hyperæsthesia. Sometimes even anæsthesia has been observed, but such cases are rare. Rheumatismal anæsthesia is generally observed in connection with rheumatismal contracture. The muscles are often the seat of pain in hysteria; muscular rheumatism is well known, and it is sufficient to mention it. Muscular paralysis, localized and often generalized, is common in hysteric subjects. In rheumatism paralysis of a group of muscles, innervated by one nerve (radial and facial paralysis), is sufficiently frequent. These forms of paralysis are of much greater extent in hysteria, and the hemiplegic character they assume is wanting in rheumatism. Contracture, primary or consecutive to arthralgia, is well known in hysteria; it sometimes exists, but in a less intense degree, in rheumatism. Convulsions seem to be observed particularly in hysteria; very rarely in rheumatism. Chorea, however, is of a rheumatic nature. Lesions of nerves exist in both maladies; neuralgia is common in both; but in rheumatism the neuralgia is better limited to the muscular branches. In hysteria localiza-

tion is more difficult. In the first case, in rheumatism, neuralgia attacks an anatomical group, while in the second, hysteria, it affects rather a functional group.

The articular lesions are specially remarkable in rheumatism, but they may exist in hysteria, in which malady articular pain, with congestion and even exudation into the joint, have been observed; but what characterizes these symptoms, which have frequently been taken for those of white swelling, is their sudden disappearance, as if by enchantment, after long resisting all methods of treatment.

Sensory troubles appear also to predominate in hysteria, but they sometimes exist in rheumatism. It is well known that certain forms of amaurosis are due to rheumatism, as also diminution of hearing in certain cases, attributed to rheumatism of the small articulations of the ossicula auditus. As regards taste and smell, I know of no derangement due to rheumatism, while such are very frequent in hysteria, and always accompanied by cutaneous anæsthesia, which facilitates the diagnosis.

The visceral troubles in hysteria are numerous and may simulate any disease (Sydenham), cough, asthma, angina, etc., hemorrhages from mucous and cutaneous surfaces. Rheumatism is accompanied by gastralgia, enteralgia, renal pains, differing from those induced in a gouty subject by the presence of calculi or uratic deposits, and absolutely independent of the presence of calculi in the kidney.

Hemorrhages even are not unknown in rheumatism; besides cutaneous hemorrhage, rheumatismal purpura, and hemorrhage into the interior of articulations (facts observed by Constantin Paul), hemorrhaphilia should not be forgotten. Patients subject to excessive loss of blood after slight injury are frequently met with among rheumatic, very nervous, and hysteric patients; and they generally descend from families subject to hysteria or rheumatism.

As may be seen from the preceding enumeration of symptoms, the entire organism may be affected in hysteria or rheumatism. I have not spoken of the change in the character of the individual. The two types have, at this point of view, characteristics special to each. There is a peculiar sensitiveness to impressions; the mental state in hysteria is well known, but on the disappearance of certain rheumatic pains the patient becomes a prey to anguish and a peculiar state of anxiety, until the pain returns; certain gouty patients are calm only when suffering from great pain in the toe; if the foot is cured, the patient becomes immediately exacting and disagreeable. How can the physician decide which of the two diseases he is in presence of? Hysteria is characterized by hyperæsthesia, hemianæsthesia, localized painful points, the hysteric ball in the throat, the averred existence of anterior convulsive attacks. Again, hysteric symptoms have this special character: after lasting months, or even entire years, they suddenly cease, brusquely and almost without pretext, and the general health becomes completely normal.

Paraplegia, or muscular paralysis of several years' duration, is not followed by atrophy of the muscles, as happens for affections of the same nature but having a different cause; in hysteria the muscle in the end is as contractile as if it had not been paralyzed, and is all ready to enter on action.

In rheumatism some characteristic circumstance is ordinarily found, such as the impression of cold and damp, pain as soon as the patient is at all exposed to slightly lowered temperature, then a prompt exacerbation of muscular or nervous pain. Hereditary predisposition is also of value in this research.

Finally, the symptoms of rheumatism are not so marked as those of hysteria, but diagnosis may be arrived at by exclusion. It should not be forgotten, however, that in rheumatism the general character of the symptoms is rather anatomical, while in hysteria they take on a functional character. The often excessive mobility of the phenomena characterize hysteria rather than rheumatism, in which the lesions are more durable. The seat of the lesions in hysteria, on the left side, has also a certain value.

Finally the causation should be taken into consideration; hysteria appears under the influence of sometimes a very slight mental emotion; rheumatism after the patient has been exposed to cold. Nevertheless this system of etiology should not be too much depended on; the action of cold may determine a hysteric attack, while nervous troubles may be the signal of a rheumatic attack. These two morbid states have a common field of action—the nervous system; they may be associated; one may derive from the other. One woman, daughter of a gouty patient, will be hysterical during her youthful years, becoming rheumatic in old age. It is remarkable that this form of hysteria is localized rather in the viscera than in the other organs; its character is more obscure than usual.

Briquet mentions a case where a young girl became hysteric under the influence of cold. He

has published cases of hysteric coxalgia and paralysis brought on by cold and dampness, and attacks of asthma due to the same cause.

Again, there is a certain form of angina pectoris which is peculiar and independent of the grave form, appearing only in nervous women, in hysteric patients, and sometimes in rheumatic subjects. These examples prove that hysteria and rheumatism may be associated, cold being the excitant of the nervous system, which will induce hysteria, just as a traumatism may have the same rôle in inducing rheumatism.

What conclusions may we draw from all these considerations, regarding the patient who has been the object of this discussion? The study of these facts demonstrates that this woman was simultaneously affected with hysteria and rheumatism. She was very sensitive to the impression of cold, particularly on the left side, because in the low, damp room she occupied, as janitress, she had the left side turned toward a large open window, near which she remained almost all day, seated. This side of the face was so sensitive to the impression of cold that when she left the house she was obliged to cover it with the arm or hand. But when, besides that, she was inclined to hysteria, the system was completely prepared; she became thoroughly chilled and wetted by the cold rain when heated with hard work, and this last, which constituted the cause of the rheumatic attack, also became the point of departure of hysteric symptoms. The violent pain on the left side of the head may be attributed to both causes united; epicranial rheumatism augmented in intensity because of the hysteria. This is, in effect, one characteristic of hysteria; it gives excessive intensity to all morbid manifestations. In this case, then, we yesterday instituted a treatment proper for rheumatism, and administered salicylate of sodium.

To-day we observe an absolutely unhoped for amelioration in all the symptoms, which have all diminished in intensity; the sight of the patient is clearer; she hears the tick of a watch; she hardly suffers at all. She says that during the night she had an expectoration of blood and purulent matter, which seemed to ease her considerably. We can form no opinion concerning the origin of this matter expectorated; there might have been a pus cavity at some point in the pharynx, or in the Eustachian tube; the secretions might have become accumulated, which would explain the pains in the ear and the deafness. But this is but a subject of hypothesis.

But, besides this unknown cause of amelioration, should we attribute to the salicylate of soda any part in the prompt and decisive amelioration we observe this morning? Certainly not. This medicament is neither so active nor so powerful; nevertheless, we may affirm that the amelioration obtained demonstrates the rheumatic origin of the affection, at the same time that the rapid disappearance of the painful symptoms recalls precisely the character of mobility which hysteria imprints on these rheumatic manifestations.

COMMUNICATIONS.

WATER DRESSINGS AND BATHS IN SURGERY.

BY GEO. HALSTED BOYLAND, A.M., M.D.,
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The absence of extended discussions on the employment of water, either hot, cold or tepid, in the treatment of wounds, as a dressing, and topical bath for parts affected, is a conspicuous feature of the many surgical annals and clinical reports consulted by the writer. A reference to the standard works on surgery will prove hardly more instructive: in many, the subject, as such, is not even mentioned, while in a few, if found in the index at all, it is summarily dealt with in five or ten lines, and finally dismissed altogether. Is it that our authors, ever striving after what is beyond in science, have, to say the least, not given proper importance to one of the most efficacious means of treating surgical diseases: a means at once so simple and universal as to be likely to be passed over with indifference, when simplicity and universality ought to be its chiefest recommendations; as no one will probably gainsay that simple surgery is best?

It does seem that the subject of water dressings merits a much more prominent place than has hitherto been given to it in our surgical literature; and this is one reason that has induced me to compile the following notes. Another reason is the hope that the general practitioner may find something useful in the record of cases given below. These cases have been selected from a great variety of surgical diseases, occurring in my own practice, in which the treatment in question proved more rapidly successful than either lead water, diluted alcohol, or antiseptic dressings could possibly have done, and in some of which these had been previously tried.

The chemical action of hydrogen and oxygen gases upon tissues, in oftentimes preventing suppuration, is of itself a sufficient answer to those who object that water is empirical, to say nothing of the molecular changes, causing a quick

reduction of swelling, when applied cold to bruises. But let us hasten on to practical application, leaving to the scientist the study of the gases from his standpoint, and to the hydropath the exhibition of his panacea in the ills that flesh is heir to.

Ancient writers, Hippocrates and Celsus among others, seem to have set the example of giving water a very inferior place, both in their writings and practice. If more modern practitioners had given dressings and baths of this kind a fair trial, this example would not only not have been followed, but pure water would have been the most used liquid in surgery. Baths, sprinkling or pouring water over a wounded surface, either warm or cold, as the case may demand, find the most extended field in surgical treatment. Personal observation has been convincing, that in very many cases expensive and complicated bandages, with salves and plasters and fomentations, can be, with infinite advantage to the patient, exchanged for water compresses. Water works partly as a liquid, that is, loosening, dissolving and cleansing; partly by its temperature and partly by keeping off the air. For the application of cold, compresses wet with very cold water and often changed are best adapted; but before being laid on they should be carefully wrung out; in some cases, the continued pouring of cold water over the affected part is more efficacious, or, finally, ice broken as finely as possible, and confined in bladders, gum sacks, glass bottles, or tin boxes, may be used whenever it is desired to have the working of the cold decidedly and continuously. Under such conditions, ice has no equal, and can only be imperfectly replaced by the ether spray or by the so-called cold combination. This is a mixture well known to German surgeons, and consists of equal parts sal ammonia and saltpetre, prepared in solution with water immediately before using; or sal ammonia, 1 part; saltpetre, 3 parts; vinegar, 6 parts; water, 12 to 24 parts. Owing to the tendency of the liquid to escape through the meshes, charpie is less suitable for water dressings than compresses, which retain the water better, on account of their texture being closely woven.

In using water on chronic ulcerating surfaces when moist, warmth is indicated; the addition of linseed, powdered, or of grist, or meal, has usually been considered necessary; not so much on account of any curative effects these cereals may possess, as by reason of their capacity to retain warmth. In view of this, the practice of placing this paste directly upon the wound, as recommended by no less an authority than Bardeleben* in his admirable work, is to be condemned as useless and unclean. A gum bag, filled with warm water, may be substituted with advantage and convenience, and will be found to retain the warmth equally as long. The temperature of a warm application must be from 100° to 130°, Fahrenheit. Of course, the principal point is to let the moist warmth exercise all its power upon the tissues; and just as in the application of moist cold, which is laid on at as low a temperature as possible, and must be renewed as soon as the bodily warmth is communicated to it, so moist warmth must be renewed as often as it shows signs of cooling. In using the gum bag it will, as a general rule, be found necessary to refill it at least four or five times a day. It is a good plan to cover the bag compactly with stuffs that are bad conductors of heat and not easily permeable, and in this manner prevent a too rapid cooling. With the gum bag the drying, which in the cataplasm has to be guarded against, naturally falls out of consideration, and sufficient moisture is obtained by the bag having been first dipped in water at the same temperature as that inside, and laid wet upon the surface. This should always be done; then the cloths enveloping it will serve well to keep up moisture enough. The practitioner will doubtless observe that there is a certain inclination of the bag to slip, both on account of its weight and the fluidity of its contents; but this is easily overcome by careful bandaging and fastening in the first place. It is best to have the bag made of the thinnest and most flexible elastic material compatible with the demands of the use to which it is to be put. Another gain in employing the gum bag is the facility with which it is removed. In removing a cataplasm, such as referred to above, care is necessary, especially when the mass is laid directly on the skin, or when separate portions of it are dried thereon. In the last case they must be carefully moistened, and either washed off or scraped away with a spatula. Considerable time may be lost in this way, much inconvenience caused to the surgeon, and not unfrequently, pain to the patient. Sometimes the mildest cataplasms—of water and linseed, for example—cause considerable irritation, so that vesicles spring up, and the wound surface swells, assuming a gray tint. This is usually attended with a sense of pricking and slight discomfort to the patient; but in spite of the gray swelling cicatrization follows normally, and the vesicles soon disappear again, provided the temperature of the

* Bardeleben Chirurgie. Vol. I. p. 113.

cataplasm is not too high, or the seed and water mass does not become sour. Equally good and rapid results are obtained by the bag, and all this is avoided. If a bag is not at hand, I prefer a linen compress, wet with water at the requisite degree of heat, wrung out, and then applied directly to the wound surface, without any admixture of linseed, grist or meal.

With reference to the employment of cold water dressings, in fresh injuries, their action is refrigerant, styptic, discutient, decongestive and more prompt in chronic cases, where their influence asserts itself more slowly, but none the less surely, and progressively causing a change of tissue, and having a decided tonic and slightly stimulating effect, calling back a torpid ulcer to life and healthy granular activity, more noticeable, certainly, in cases in which there is no dyscrasia; and in these no dressing would avail until the general condition had been improved by such treatment as the taint in question might require.

In the cases that will now be given no two are alike, each having been selected because it is typical of a particular class, as the limits of one article forbid the introduction of long lists of cases, especially, as they would bear sufficient clinical resemblance to make them monotonous, and the slight differences existing between them would present nothing of marked surgical value.

Case 1.—G. R. F., aged thirty-five, unmarried, of combined nervo phlegmatic temperament, a large, well-developed man; height, six feet one inch in stockings; without history of disease in his family; had had smallpox earlier in life, and once pneumonia. At the time of infliction of the injury to all intents and purposes a sound man, without constitutional taint. On May 31st, 1876, G. R. F., a painter by trade, was standing by the roadside in front of his shop, near Baltimore, conversing with two men in a buggy, his right foot being unconsciously between the fore and hind wheels. A bicycle passing at that moment from behind made the horse start suddenly forward, causing the hind wheel to pass directly over his foot, just on the lower border of the instep. Owing to the weight of the wagon with its occupants, and the sharp edges of a new steel tire, the skin was cut, although protected by a heavy boot, some blood lost, and an ugly, irregular wound created, laying bare portions of the first and second metatarsal bones, otherwise uninjured, and bruising and mashing the soft parts between them to the depth of about half an inch or more. He did not consult any physician or surgeon, but knowing something of carbolic acid, and being able to limp to a horse-car, was conveyed home, where he procured some carbolized soap, and proceeded to dress his wound every morning with this and water.

At the end of two weeks, not noticing any improvement, he consulted an apothecary, who told him to try tar salve. This, he afterwards informed me, seemed to make it worse, until June 23d, when he was first seen by me. The wound on the foot was at that date of a dark brown color at bottom, surrounded on the border by a reddish areola; there was no secretion of any kind, the general appearance of the injury being dry and torpid. The larger saphenous vein was red and turgid, from the foot to the groin, showing signs of phlebitis. The inguinal glands on both sides were indurated and engorged, though indolent. Besides which the patient complained of general malaise and torpidity of the bowels, owing, doubtless, to repeated doses of laudanum taken to alleviate the pain, of which he was still complaining.

I ordered him to stop the medicine and the salve, and after prescribing a good dose of salts, and cautioning him about keeping his bowels open daily, further advised him, as he insisted upon limping about, to go to the back room three times a day, prop his foot under the spigot, and let the cold water run upon the wound for half an hour without interruption, and in the mean time to recline upon his lounge or bed with his foot raised to the horizontal position and wrapped in cold water compresses, a moderate diet only being recommended. On the following day, June 24th, the swelling of the left inguinal glands had entirely disappeared, that of the right diminishing perceptibly; the saphenous vein had lost its redness and could not be traced by sight or touch otherwise than is normal; the dark brown color at the bottom of the wound had given place to a redder and more natural hue, while the red areola had assumed a pink tint scarcely noticeable. The next day but one I called to see this patient again, but he had gone out; it was, consequently, not until ten days later that we met by chance, when, upon asking him about his wound, he informed me that suppuration had appeared and increased during the first few days after my visit, but had then decreased, the wound healing rapidly by granulation, with absence of pain; the swelling of the glands having disappeared on the third day after the cold water treatment was begun, and having experienced no further inconvenience from it, he had been pursuing his avocation for some days past.

This case shows the value of the cold water treatment in chronic cases, even when the disease has been standing so long that constitutional symptoms begin to manifest themselves. It is true that there were some favorable points in this instance; for example, the patient's good general health; then, again, the bones were uninjured and the periosteum intact. Nevertheless, the symptoms and combined appearance of the case were such as to cause fear of almost immediate erysipelas, followed probably by septicæmia, the swelling of the glands being already undoubtedly of septic origin. The tonic and stimulant action of the cold water dressings were markedly manifested on this chronic wound, restoring the patient to perfect health, and thus avoiding what there was every reason to believe would have been a fatal issue. This case has been given somewhat in detail, as a rather important one and one representative of a whole class.

Case 2.—The first time the writer ever had occasion to test the efficacy of cold water applications to fresh and acute inflammations of the knee joint, was while passing the summer, a few years ago, in Switzerland. Col. ——, of the French army, and myself, were descending a mountainous road, returning to Chamouni, having almost reached the bottom, when his heel slipped on a smooth, round stone, causing him to fall heavily, in doing which he gave his left knee a violent twist and snap; going to him, with the guide, we raised him, but found him unable to walk and complaining of intense pain. Leaving him by the side of the road we hurried on to Chamouni for a char-wagon, and soon transported him to his hotel. Upon examination I found the knee much swollen, the skin tightly drawn over it, exceedingly painful to the touch. The patient, of sanguineous nature and very nervous, also suffered from nausea, induced, no doubt, by reflex irritation of the sympathetic ganglia. Placing him on the edge of the bed, undressed, with his foot upon a chair and a large deep tub under the knee, I poured bucket after bucket of cold mountain brook water over the inflamed knee, holding them up some distance, so that the water might fall upon the knee and thoroughly douche it. After continuing this for some time, say one-half to three-quarters of an hour, the knee (to some extent below and above it also) was wrapped in large, wet towels, around which were placed others, dry. The whole process occupied about an hour, after which I left my patient with his limb extended in bed, and with the assurance that he experienced no pain, feeling, on the whole, as he expressed it, "assez bien."

It was now nine o'clock in the evening. The next morning, at daylight, he informed me that he had slept quite well at intervals during the night; pain and nausea had not returned. Upon removing the dressings, I found the knee less tense than before; there was still swelling and redness; both, however, had somewhat diminished. He could bend his knee just perceptibly, only. The cold douche and wrappings were then repeated; again at mid-day and again at night. The next morning the redness had entirely disappeared, and there was very little swelling left; the douche and wrappings were used only twice that day. On the following morning found him up and sitting by the window. Cautioning him about his imprudence, he replied that he felt only a little stiffness in the affected joint. Ordered one douche at mid-day, cold dressings to be continued until stiffness should be entirely gone; this was in a very few days, after which patient suffered no inconvenience whatever. It has always been a source of regret that the daily progress could not have been noted in Case 1, but the rapid results spoke for themselves. In Case 2, the gradual decrease of swelling and redness, and return of movability in the joint, were watched with almost hourly interest, attesting the therapeutic value of cold water dressings, as decongestive, antiphlogistic, and discutient; their anodyne property having been shown by the immediate cessation of pain before the swelling and tension began to subside.

Case 3 —Mrs. L. S., age 35, mother of two healthy children, herself affected by chronic endometritis and slight valvular trouble, while attempting to raise a window that had no weights, was struck just above the wrist by the heavy sash falling full distance upon it. I happened to be in the house at the moment of the accident, and saw the arm at once. The skin was not broken, but extending from the immediate neighborhood of the wrist, up the forearm, was a large bruise the size of a man's fist, dark colored and congested, hard to the touch. The patient, although not a nervous lady, was trembling from the shock. I had a foot tub half filled with the coldest water that could be got, and made her keep the forearm submerged in it for half an hour, after which the cold water compress and dry compress over it were applied, to be changed as often as she felt that it was drying; the arm to be carried in a sling. Called to see her on the morning of the second day after, and found the swelling almost gone; the ecchymosis still remaining. The dressings were persevered in for a few days longer, when the

arm was completely cured. The detergent and discutient action of the cold water topical bath, followed by the dressings, were very decided.

Case 4.—A young girl, aged 17, had been suffering for some time from a deep cut across the wrist, done by falling on a piece of glass. When brought to me, there was considerable swelling above and below the wound, with some redness, the appearance of which resembled that of inflammation of the sheaths of the tendons, although much less developed. The wound itself, as usual in these cases, had been treated, or rather maltreated, on the open plan, with quack salves and applications of different descriptions. These were ordered discontinued. No topical bath was given in this instance, the wound showing signs of granulation at bottom. Cold water dressings were given in the way above indicated; she called 48 hours later, and the granulations were in active progress through the entire extent of the wound, the swelling above and below having almost entirely subsided. The wound progressed favorably under the treatment, and cicatrization soon followed, the arm being carried in a sling until this was accomplished.

The signs of granulation existing when the wound was first shown me were such as would have invited a gentle cauterization with a very mild solution of nitrate of silver, in order to call the beginning granulations into healthy activity, a result readily effected by the cold water dressings. The sling had no effect on the treatment otherwise than to rest the arm and aid thus the venous circulation in accomplishing a reduction of the swelling. The therapeutic relation of very cold water to a mild caustic is evident.

Case 5.—A lady, Mrs. I. L., of plethoric habit, aged 45, had fallen from a carriage. As she was on the step, getting out, the horses started suddenly, throwing her violently, with a dragging motion, on her face, scraping it upon the road-side path, composed of gravel and sharp fragments of shell. I saw her almost immediately; the wounds, five in number, were quite deep, denuding the bone in the region of the right zygoma. Although not of nervous temperament, she was trembling from shock, rather incoherent in her answers about the accident, and much frightened at the quantity of blood she was losing, which was indeed considerable. Reassuring her on this point by telling her that it would be all the better with her for that, I had her placed on a lounge and given some aromatic spirits of ammonia and Vichy water. Her face was then sponged off with cold water, and dressed with the same material, the vessels commencing to contract and reduce the bleeding to a slight oozing. The mode of dressing here was to cut off a piece of fine linen the size of the face, with holes for the mouth, nose and eyes, and to lay this, thoroughly wet with ice-cold water, upon the whole face and forehead, which was also lacerated. This was about ten o'clock in the morning of August 16th. The next day, at the same hour, found all the abrasions and wounds covered with a thick incrustation of lymph; and patient informed me that she had passed a comfortable twenty-four hours, there having been no return of the bleeding, but only an oozing of lymph during the preceding day. This had ceased during the night. Early in the morning the bowels had moved spontaneously, and all appearance of congestion about the face had vanished. I saw this patient once more, on the following morning, when the crusts had begun to shrink, and signs of cicatrization could be distinctly seen putting out around the edges of all the injured places.

The action of the cold water dressings in this instance was both styptic and colloid. A few days sufficed to complete the cure, although the lady preferred to keep her room until the incrustations fell off spontaneously, and thus ceased to mar her beauty.

Case 6.—Wm. A., male, aged 50; married; a laborer by occupation; of phlegmatic temperament. Was wounded in an affray, by a large knife passing across the lower third of the upper arm, on the flexor side, and severing a portion of the biceps muscle in its anterior fibres. Instead of putting in stitches, determined, if possible, to get a healing by first intention and without the use of adhesive plaster. I flexed the arm, and thus brought the edges of the wound in close apposition; as the bleeding had ceased, I applied the cold water compress, with dry one over it, and bound the flexed arm fast to the breast, as is done in cases of fractured clavicle. These bandages were not removed until three days had elapsed, but the wound was thoroughly wet from the outside with cold water, as often as the bandages began to dry. When they were removed, at the expiration of this period, there was a complete union by first intention, a little stiffness of the arm, being the natural result of keeping it in one position so long. The dressings were changed and continued a day or two longer, the patient being now allowed the restricted use of his arm, the stiffness in which speedily disappeared.

This case was more or less of an experiment. The offer was very tempting. It is, in fact, very

rare to find one so adapted to our purposes. It is certainly admitted that the flexion, by bringing the edges of the wound together and keeping them so, accomplished really all that was necessary in healing per primam. The cold dressings must have, nevertheless, the due credit for their antiphlogistic and pain-alleviating properties. There was no inflammation and no sense of burning in this wound, from the moment the dressings were applied.

In closing these notes, the writer would repeat that all of the foregoing cases, with the exception of the last one, which is unique, are typical ones, carefully selected from numbers very much like them; so that the objection usually offered, that the data are not sufficient, will hardly avail. The surgical critic will interpose, "water does everything, then." In reply, I would state that I believe it does—in general. The temperature of the water must be varied according to the demand of the case; for instance, in torpid ulcers, where moist warmth is indicated, the proper caloric is given in degrees Fahr. above. In order to obtain the full working of *lukewarm* water there is no better means than oft-repeated and continued baths, either of the whole body or of the part affected. The part affected may thus be kept in a permanent bath for days together. If, on the other hand, a *fresh wound be placed in a warm bath* there is soon noticeable a considerable swelling of its surface, its borders, and even its surroundings, in consequence of the imbibition of water; this may be of advantage as to making exudations soluble and more capable of resorption. The red wound surface, moreover, soon assumes a grayish tint and appears as though covered with a pseudo membrane. This depends partly upon the layer of exudation really covering the wound surface, and partly upon its welling up. This layer of exudation is loosened in from three to four days, by the granulations springing up under it. These grow up rapidly from all sides, although much of their bright red color is lost by soaking in warm water. If a wounded limb that has already been kept some time in a permanent bath be suddenly withdrawn, the wound surface will appear much smaller a few hours after drying. This process is exactly the reverse of what takes place if *a fresh wound be treated by cold water*; and the results are less prompt. In practice, generally, no matter how the wounds are dressed, I have found irrigation with water at each dressing cleanly and invigorating. If permanent irrigation with either warm or cold water is desired, an ordinary washtub with two or three holes bored, in a straight line, in the bottom, into which fit tin pipes of small calibre, in the long diameter of the limb, and provided with stop-cocks, will be found serviceable; a second tub being placed under the limb, to catch the overflow.

The benefits to be derived from the permanent warm bath may be briefly summarized thus: removal or alleviation of pain that is chiefly dependent upon contact with the outer air; doing away with changing bandages, with its attendant pain and inconvenience, as the bath itself acts as an occlusive bandage, and any sutures that may have been laid on can be removed under water; reduction of the wound fever; the greatest cleanliness, attained by constant washing away of the wound secretions; in a word, more rapid induction of the healing process.

All water used for surgical purposes must be carefully inspected as regards foreign substances and decomposing matter. Spring water is best. If only river, or cistern, or pump water is available this should, if it is possible, be filtered before being employed. In every doubtful case disinfection of the water with a small proportion of the chloride of zinc is safest, otherwise the water dressings would carry infection to the wound surface, and be productive of consequences so serious as to impede the *vis medicatrix naturæ*, which the treatment of wounds with dressings and topical baths of pure water, hot, lukewarm, or cold, as the case may demand, gives full play to.

Medical Societies.

BRITISH MEDICAL ASSOCIATION.

(*Concluded from page 434*).

Section on Obstetrics.

Dr. E. Trestrail presented a paper on

POST-PARTUM UTERINE EXAMINATIONS.

He maintained that in puerperal fever, sickness following delivery, hemorrhage, protracted after-pains, etc., the early examination of the interior of the uterus enabled the real cause of the illness to be arrived at and removed, and serious results prevented. He stated his opinion that puerperal fever arose more frequently than was commonly supposed from the retention of decomposing pieces of placenta, etc., and that their presence in the uterus caused it to contract more forcibly near the os than at the body and fundus, thus causing the retention, rather than the throwing off, of the decomposing and blood-poisoning substances. He also referred to the like action of ergot, as proved by a series of three hundred experiments in *post-partum* cases, so that it could not be relied upon to empty the uterus. He also pointed out that no medicinal treatment, nor syringing the uterus with disinfectants, would cause

the removal of some clots, which, from their gradual formation and solidity, had become most firmly attached to the walls of the uterus, and could only be removed by the hand; and that thus many cases of *post-partum* illness and incipient puerperal fever could be cut short by the internal examination of the uterus, and by no other means.

ON UTERINE DISPLACEMENTS.

Dr. Bantock (London) believed that much of the discrepancy in treatment of these displacements arose from the want of precision in diagnosis, and the habit (in the case of backward displacements) of not distinguishing between an essential version and flexion. It was impossible to reconcile the differences which existed in the matter of statistics, except on the grounds stated. In his practice he found the order of frequency to be this: retroversion, anteflexion, anteversion, retroflexion. It might sometimes be difficult to say whether a particular case of backward displacement was essentially a version or a flexion, because a version might have flexion superadded, owing to the various degrees of resistance offered to the descent of the body into Douglas' pouch and the ascent of the cervix in the vagina, but it was not impossible. Versions were to be treated by the vaginal pessary alone, and flexions by a combined vaginal and intra-uterine pessary, such as Meadows'. One reason why failure was often met with was, that no care was taken to adapt the size and shape of the pessary to the requirements of the case. In anteflexion, inflammatory conditions must be treated first; in many cases the sound alone sufficed. When there was constriction of the internal os, division must be practiced; and in many cases the stem pessary was a *sine qua non* of treatment. He regarded anteversion as the least in degree and in effects, and as least of all requiring treatment. No vaginal pessary had yet been invented, nor was likely to be, which would correct a flexion.

SHORT AND PRACTICAL HINTS ON NATURAL LABOR.

By H. H. Muggeridge, LL.D., M.R.C.S. (Seaford). The following is a list of the points touched on in this paper, which the author thought useful for young obstetricians: Primiparæ, after thirty-five or forty years of age: patience to be observed before the use of forceps; also consultation with an experienced practitioner, if it can be obtained; fears of patients at those ages in first confinement; advice and hints to prevent a hard and lingering labor. Placenta, its expulsion and removal in hour-glass contraction and adhesion. Hemorrhage from funis of infant after separation by ligature. Retention of portions of placenta. Hemorrhage and its consequences. Catheter, its use during and after labor and instrumental delivery; necessity of perfect knowledge how to introduce it; case in point. Directions to nurse. Women not pregnant, who think themselves so; necessity of correct diagnosis. Ovarian tumors. Large hypertrophy of nymphæ and clitoris in primiparous patient thirty five years of age, pregnant; operation at seven months; delivery at full period with forceps; living child; recovery of patient. Force of imagination and mental disquietude during pregnancy, illustrated by birth of two-headed emale at full period, still-born. Dr. Thompson (Bideford) bore testimony to the correctness of the first principles called to mind by the paper; but he objected to pinning the binder; he always had a long one, and tied it in a knot behind the patient. He urged the importance of noting the frequency of the pulse as an indication of impending hemorrhage. In order not to interfere with this, he avoided giving stimulants. Then, as soon as possible, he put the child into its mother's arms; it was not essential that it should take the nipple. He had never known a case of hemorrhage where this had been done. In cases where it was difficult to extract the placenta on account of its size, he pressed well on the uterus; then snipped the ligature on the cord, and allowed some blood to escape. This reduced the size of the placenta, and allowed its easy extraction.

SECONDARY POST-PARTUM HEMORRHAGE.

J. Braxton Hicks, M.D., F.R.S., London, read cases, with remarks, where the whole or part of the placenta had been retained, for some reason or another. The cases were mostly at full term or advanced pregnancy; in many of them imperfect attempts at removal had been made, though subsequently in all it had been accomplished, but with great difficulty. In most of them secondary hemorrhage had occurred; in all but one there were offensive discharges. Dr. Hicks had brought forward these cases partly to show the value of the standard rule, which insists that in every case where possible portions of placenta remaining on the uterine wall should be removed; and the cases he narrated illustrated the nearness of death or of great danger when, for some reason or another, the rule could not be or had not been followed. Dr. Hicks advised that, in all cases after delivery, where, with floodings, there was offensive discharge, the uterus should be explored.

Dr. Cordes, Geneva, related a case of secondary hemorrhage which occurred in a patient aged 45, who, 107 days before the hemorrhage, had what the midwife said was a complete abortion at three months. There was no putrid smell with the bleeding. Ergot, cold, and turpentine, were of no service. The third day he gave two grams (thirty grains) of quinine. Expulsive pain came on, extruding a piece of placenta as large as the ends of two fingers, quite inoffensive. Thus, after 109 days, this piece of placenta was still what might be called living. Dr. Henry Bennet, Mentone, believed that retained placenta, when adherent, was generally due to preceding inflammatory states. When there was much hemorrhage after abortion, he recommended plugging the cervix, "driving the plug like a cork into a bottle." Dr. R. Beverley Cole, San Francisco, said that he invariably, directly after he had handed the child to the nurse, inserted his hand into the uterus and brought away the placenta. It cut short the woman's sufferings, and did away with the risk of *post-partum* hemorrhage. The pressure of the hand in the uterus, moreover, excited contraction. This plan had the advantage of revealing any adhesion at once. Dr. Williamson, Ventnor, compared this practice with the reluctance generally felt

about introducing the hand into the uterus except under circumstances of necessity, and he asked for the result of Dr. Cole's cases. Dr. Cole had followed the practice he described for thirty years, and had only had one death from hemorrhage. Dr. Edis, London, protested against Dr. Cole's opinion on this matter going forward as the opinion of the meeting. Dr. Braxton Hicks, in reply, said that adhesions of the placenta did not occur so often as to warrant Dr. Cole's treatment being pursued in every case, lest the placenta was adherent. Nature was able to do her own work.

ON STERILITY.

By Arthur W. Edis, M.D., F.R.C.P. (London). The fact of many women conceiving within the first year of married life, and then, after an early miscarriage or labor at full term, never again becoming pregnant, was commented on, and an explanation offered. The importance of ascertaining, after a confinement, that the patient had not incurred more than ordinary penalties of parturition, and that she was left in a fair way to recover her former physiological condition, was insisted on. Even after many years of acquired sterility, a fair proportion of the cases usually met with could be successfully treated, if only pains were taken to ascertain the exact nature and full extent of the injury sustained, and to persevere sufficiently long with treatment.

Dr. R. Beverly Cole (San Francisco) considered that subinvolution was perhaps the most common cause of women being sterile after having one child or one abortion. The causes of subinvolution were numerous—too early getting up, bad digestion, strumous diathesis; the first was a very common cause of subinvolution in America. He had found superinvolution or atrophy of the uterus more difficult to deal with. He mentioned his usual mode of treating these cases, describing his galvanic pessaries, which consisted of a stem composed of parallel bars of zinc and copper insulated by a thin layer of vulcanite. In thirty cases, he had thus built up the uterus from one inch and a quarter to the normal size, within three months.

Mr. Ross Jordan (Birmingham) had had several cases like Dr. Cole's, which he had treated similarly.

Dr. Henry Bennet (Mentone) agreed with Dr. Edis. He mentioned that, at a late census, one million of married people were sterile. The same thing obtained in cattle. One woman in six was sterile. It seemed as if a certain portion of the female creation were destined to be unfertile. He believed that frequent sexual intercourse, setting up inflammatory conditions, was unquestionably a cause. He thought prostitutes were generally sterile, because they were recruited from the sterile classes.

Dr. Cole thought sterility should not all be laid to the charge of the wife, fifteen per cent. of cases being due to the man.

THE PROGNOSIS OF SYPHILIS IN WOMEN AND CHILDREN.

C. R. Drysdale, M.D., London, said that women were, generally speaking, much more affected by syphilis than men. The virus might awaken any tendency to consumption or scrofula in women; and one form of skin disease, the pigmentary syphilide, was peculiar to women, or at least extremely rare in men. It was seen mostly in the neck, but Dr. Drysdale had seen it on various parts of the skin. Women, too, frequently lost almost every hair on the body in secondary syphilis, which was rare in men. Periostitis was far more common in women than in men, and so were headache in the secondary period, hydrarthrosis and trembling, with emaciation and prostration. Anæsthesia of various points of the surface of the skin was frequent in women; it was most seen on the backs of the hands, on the mammary gland and the cheeks. Extreme coldness of the surface also occurred in women. The author had seen jaundice several times in women in the secondary period. The generative system was greatly affected in the syphilis of women. During the secondary stage of their disease they often suffered from leucorrhœal discharges, which were for the most part non contagious, unless accompanied by some syphilide of the vulva or vagina. In some cases, doubtless, this gonorrhœa was contagious when inoculated on a healthy subject. In a few cases, syphilis caused in the secondary period complete suppression of menstruation, especially when malignant syphilis was present. Secondary syphilis rarely caused sterility, but pregnancy rarely ran its full course, and the patient had an abortion or premature labor if in the secondary period of the disease. Of ninety-seven pregnant women with secondary syphilides, at least thirty aborted. Syphilis was one of the commonest causes of the death of the fœtus. In rare cases, no healthy child was ever born. As a general rule, however, women, even when untreated, tended to have healthy children in three or four years; but he would not recommend any one to marry a syphilitic woman. Men constantly married a few years after the chancre, and had perfectly healthy offspring. The prognosis of syphilis in infants was extremely bad. His experience corroborated that of the physicians of the Lourcine Hospital of Paris, that very few, indeed, of such cases of infantile syphilis survived. Those who did survive rarely lived beyond the age of thirty-five, and were liable to have a sickly existence, during the course of which iritis, periostitis and bone diseases were frequent.

THE INTERNATIONAL MEDICAL CONGRESS.

Section on Diseases of Children.

(*Continued from p.* 402.)

During the discussion on spinal curvature Dr. A. M. D. Bellem, of Lisbon, read a paper on

SPINAL DEFORMITY AND SAYRE'S METHOD.

The author accepted, almost to the full, the principles on which Sayre advocated his especial method of treating spinal deformity. He thought, however, that neither the pelvis nor the shoulder afforded a fixed point for securing immobility of the spine. In hot countries the bandages must be changed at least once a month. One of its disadvantages was that it interfered with sea-

bathing, and also with general cleanliness. The author did not approve of the "jury-mast:" it rendered the patients uncomfortable, even if they did not actually resist its application. Anæsthesia, he thought, ought never to be attempted. Six months, he found, did not always suffice to restore a diseased spine to its natural condition.

THE TREATMENT OF SPINAL CURVATURE.

C. H. Golding-Bird, M.B., F.R.C.S., London, said that, of the four deforming affections of the bones, including the spinal column, only three were found in children, viz., caries, rachitis and "general curvature." The fourth, osteomalacia, did not concern this question. These diseases being familiar to all, attention was only drawn to their treatment as affecting the spinal column. This fundamental fact must first be admitted, that these affections were the same, whether in the spine or other bones; therefore the essential principles of treatment were identical in both cases. Therapeutically, spinal diseases (in children) formed two classes: *a*. Inflammatory (caries or "Pott's disease"); *b*. Non-inflammatory (rickets and general curvature). Caries (as in the tarsus), being inflammatory, required absolute rest, immobility, relief from pressure, and free drainage of pus when formed. Rachitis and "general curvature" (as in curved tibiæ and some flat feet) required temporary support to the weakened tissues and improvement of muscular tone. All required suitable medicinal treatment. Sayre's method, as applied to spinal cases, fulfilled all these requirements; the "jacket" was but a part of the whole treatment. The jacket of plaster of Paris, closely applied during extension, either vertical or horizontal, gave the necessary "physiological rest" to an inflamed spine, while to both this and to the non inflamed it gave relief from downward pressure, thus maintaining whatever of straightness was gained by the extension. The jacket effected this by being a solid investing carapace, that would not yield the necessary lateral space required as a compensation for a diminished height on ceasing the extension, and not by any pressure upward or downward, or from side to side, like the old pieces of "spinal" mechanism, which only gave a very general sort of support. Since obviously the full limit of extension reached could not be maintained by the jacket, it was requisite in "general curvature" (rachitic children were usually too young) daily to practice Sayre's self-suspension from the head, so as to periodically open up the spine to its greatest extent, and exercise the weakened dorsal muscles. Early cases of "general curvature" were thus cured, even without the jacket; and children took very readily to the exercise. Thus, by making the support to the spine an integral part of the patient, the patient could exercise out of doors as before, and that with ease and comfort; the reclining board was no more required. If the jacket were cut up, or were made of such material as felt, it was not nearly so efficient; it ceased also to maintain the chest in the position of full inspiration, calculated to give most play to the thoracic organs. In caries rest was the principal object, and for this the jacket sufficed; in general curvature and rachitis extension and support were paramount; hence daily exercise was as important as the jacket. In early and moderate cases of general curvature cure might be confidently expected; that more advanced cases derived little benefit was due to other causes than to the mechanical means being insufficient.

Henry F. Baker, F.R.C.S.Ed., London, divided the subject into the following parts: (1) The suitableness of this form of treatment under discussion in cases of angular curvature; (2) at what stage in the treatment of the curvature it should be used; (3) its suitableness in cases of lateral curvature; (4) whether the whole method of treatment should be carried out, or only a part. In the first place, with regard to angular curvature, the author considered that in the acute stage of the disease extension was attended with danger; and that, in the more advanced cases, when ankylosis had taken place, it had no effect at all on the deformity, and that it should never be practiced in these cases. In reference to the use of the plaster jackets, for the treatment of angular curvature, he considered that it did not give the required rest to the spine, and that it was likely to constrict injuriously the chests of growing children, and that a state of recumbency was absolutely necessary to prevent the deformity from increasing in the first stage of the disease. In a very limited number of cases, when the disease had been arrested and other forms of support could not be obtained, it was undoubtedly of use. In cases of lateral and other curvatures of the spine which are not accompanied by diseased bone, Mr. Baker was of opinion that suspension in the way suggested by Dr. Sayre was a useful addition to other modes of treatment, but that in those cases in which some form of support was absolutely necessary, plaster jackets were very inferior to those made of steel, which could be adjusted at any time by the surgeon attending the patient.

Quite a lengthy discussion followed the reading of these papers, in which Dr. Sayre himself took part, mainly for the purpose of condemning the case of an anæsthetic during suspension.

The next subject of discussion was

RUBEOLA OR RÖTHELN,

which commenced with a paper from Dr. W. B. Cheadle, of London. He said: That one attack of a contagious exanthem conferred upon the individual who experienced it immunity from any further attack of the same disease, was a rule which had been found to hold good with regard to measles as generally as it did in the case of scarlatina or smallpox. Yet in two recent epidemics, both of them of severe and pronounced type, which occurred in succession in the same district within the year, it was found that the individuals who suffered in the first epidemic obtained no immunity from the second; and, further, that no previous attacks whatever of ordinary measles exercised any protective power against the second epidemic. Of thirty cases of this second epidemic, in which absolutely trustworthy histories could be obtained, twenty-two of the patients had had measles before, and ten of these under the author's personal observation, within the year. Certain deviations from the common type, such as a shorter period of in-

cubation, severe laryngeal symptoms and other special features, taken together with the fact that previous attacks of ordinary measles conferred no protection, proved the disease of the second epidemic to be an essentially distinct exanthem. The question then arose whether it was a new and unrecognized form of eruptive fever, or the only other known form of measles, rötheln. The exceptionally severe and even malignant character of the disease at the outset would seem to negative the idea of rötheln, which was always described as a disease of an invariably mild type. But, after weighing all the facts, the conclusion was arrived at that the disease was rötheln, which prevailed not only in the slight form which was acknowledged, but in a severe and malignant form also, hitherto not recognized as rötheln; but erroneously described as an exceptionally severe variety of common measles.

ON THE REAL POSITION OF RÖTHELN, RUBEOLA OR GERMAN MEASLES.

W. Squire, M.D., London, gave a short historical survey of the literature of this disease, and showed that it was known before it received a distinctive name. He said that the disease, in his opinion, had but a superficial resemblance to scarlet fever, but had close relations to measles in several points. But it was self protective, was as distinct from measles as varicella from variola, and possessed all the marks of a specific disease. It was contagious, it ran a definite course, and it occurred but once in the same person.

Dr. Kassowitz, Vienna, said that in the epidemic of rötheln which had come under his observation he had never noticed the affection passing into true measles. The resemblance to measles was nevertheless sometimes so marked, both as regards the eruption and the associated phenomena, that in any single case the distinction from the milder form of measles, which ran a rapid course, was rendered extremely difficult, and, in such circumstances, could generally only be made by having regard to other cases in the same house and family. If this affection had any special relationship, it was to measles, not scarlet fever.

The subject of

DIPHTHERIA

was opened by a paper from Dr. Jacobi, of New York. He said that the nature of the contagion was probably chemical. The presence of bacteria in diphtheria did not prove its parasitic character. The entrance of the diphtheritic poison was not the same in all cases. In some the origin of the disease was local. In others the poisoning of the blood by inhalation was the first step. In some, both modes of infection acted simultaneously. Diphtheria was very contagious. Both the patient and his surroundings, dwelling, furniture, towels, visitors, etc., conveyed the disease, and might do so after a long time. The contagion rose upward with the current of warm air in dwellings. It clung mostly to mucous membranes not endowed with many muciparous follicles. Mild cases might communicate serious ones, and *vice versa;* and recent wounds were affected easily and speedily. The disease had been contracted from animals. It attacked children under three months of age, and those over seven or eight mostly, and mainly such as had been affected previously. Local paralysis of the soft palate, and sometimes of the muscles of deglution and the glottis often attended the local deposits on these parts, with œdematous swelling of the same. The diphtheritic paralysis, properly so called, was an affection of apparent convalescence. The majority of cases occurred after mild attacks; sometimes after those with but little fever and a slow general course. It did not usually occur in cases complicated with albuminuria and nephritis. There was no symptom during the attack indicating future paralysis. Albuminuria was often found in diphtheria, but was mostly no grave symptom. It appeared to be the result of rapid elimination of the poison. Acute diffuse nephritis appeared at an earlier period than in scarlatina.

ON DIPHTHERITIC PARALYSIS AND ALBUMINURIA.

John Abercrombie, M.D. (London), said that, from an analysis of sixteen cases, he found that the paralysis generally appeared from two to five weeks from the commencement of the diphtheria. The earliest symptom, in the majority of cases, was return of fluids through the nose, or some other difficulty in swallowing. All the cases he referred to were instances of general paralysis. Irregular action of the heart was found in several cases, as also albuminuria; while paralysis of accomodation was ascertained, or could be inferred, in a considerable number. Paralysis of the muscles of the chest-wall was present in more than half the cases, and found to be a sign of very grave import The so called "patellar-tendon reflex" was found to be absent in all the cases in which it was investigated. Anæsthesia of the soft palate was generally found, but no marked loss of cutaneous sensibility. The muscles responded well to the induced current in the few cases where it was tried. In the cases that recovered, the paralytic symptoms generally lasted from five to six weeks; but in one they persisted for fifteen weeks. Of the fatal cases, two died about the ninth day from the onset of paralytic symptoms; but the average duration was about three weeks. He had not found such marked changes in the spinal cord as those described by M. Déjérine; but in some cases changes were observed in the central canal, and multiplication of the corpuscles in the neuroglia; and in others a globular condition of some of the large motor cells in the anterior cornua, with disappearance of their processes. Belladonna was the only drug which seemed to exert any influence over the disease, and its use in large and frequently repeated doses was recommended. As to the albuminuria, he had found it to occur in about one-fourth of the cases. It was difficult to fix the date at which albumen first appeared in the urine, as it was often present when the patients came under observation; but in one very malignant case he found the urine highly albuminous within twenty-four hours of the first symptom. He had never seen albuminuria commence later than the tenth day of the disease. In cases that recovered, it usually lasted only a few days; and he had only once seen it last more

than a fortnight. In fatal cases, as a rule, the albuminuria persisted till death; in one patient, however, it disappeared two days before the fatal result. He had never seen it associated, either at the onset or during its course, with anasarca. The urine was generally clear, hardly ever smoky; and he had not observed any case presenting symptoms of uræmia. The changes found after death were those of parenchymatous nephritis. The presence of albumen in the urine was always an unfavorable sign, especially so in those cases where laryngeal symptoms coexisted.

TRACHEOTOMY IN DIPHTHERIA.

Professor Buchanan, Glasgow, considered that tracheotomy was justifiable in diphtheria as well as in croup (if they were not identical diseases), but only in the sthenic or simply suffocative form. The type and stage of the disease demanding tracheotomy was best recognized by observation of the naked chest. The operation should be performed with the utmost deliberation, and the higher up the trachea the better. In the after-treatment, all medicine should be abandoned, and reliance placed solely on nourishing food, with copious supply of fresh air, at a proper temperature, the moisture being secured by a porous sponge kept moist and hot, or a little loose gauze placed over the mouth of the tube, which should be kept scrupulously clean and clear.

THE SURGICAL TREATMENT OF CROUP AND DIPHTHERIA BY THE INTRODUCTION OF TUBES INTO THE TRACHEA THROUGH THE MOUTH.

W. Macewen, M.D., Glasgow, related several cases in which he had introduced flexible tubes into the trachea through the mouth, and gave details of one case of membranous croup in which their use had been attended by marked success. He showed a flexible silver tube, and some gum-elastic tubes; the latter he found the more satisfactory. Dr. Robertson, Glasgow, had seen some of Dr. Macewen's cases, and could confirm the statement that the patients' voices were unaffected, even in the case of the patient in whom the tube was retained for thirty-six hours. He had seen the fourth case, and he found that the breathing took place freely through the tube. The respiratory murmur seemed quite full and free at the base of the lungs, showing that air was freely admitted. There was no difficulty in swallowing.

(To be continued.)

Editorial Department.

Periscope.

Obstetrical Auscultation.

In a clinical lecture (translated from the *Revue Médicale*, No. 7, in the London *Medical Times and Gazette*), Prof. Depaul, after adverting to the history and progress of obstetrical auscultation, to which no one has contributed more than himself, proceeded to explain to his class how best to perform it. The woman should be laid on a bed, on her back, for although she can be auscultated while standing, this is very inconvenient, and may give rise to serious mistakes. The abdomen should be exposed, free from all garments, especially among common women, whose coarse clothing might give rise to difficulty in the perception of sounds. In private practice it may be possible to make an examination over a chemise of fine linen. The physician must place himself on her left and right side, so as to make the examination of both sides alternately, the most complete silence being observed. The auscultation must be made by means of the stethoscope, and after having tried the various forms of this instrument, Prof. Depaul has finally adopted one of medium length, having its auricular surface slightly excavated, and the edges of the opposite aperture sufficiently thick to prevent disagreeable or painful sensations being caused. The wall of the abdomen and that of the uterus must be somewhat depressed, but only moderately so, as any strong pressure would modify the sounds to be perceived, and especially the *souffle*. Some women refuse to allow of auscultation, but a little persuasion and explanation of the objects in view usually overcome their objections. There are others, again, who have the abdominal surface in a state of hyperæsthesia, the slightest touch, according to their account, causing pain. Moreover, in morbid conditions of the respiratory organs, the various pathological sounds produced may render the uterine auscultation difficult.

It is towards the third month and a half or the fourth month that auscultation is of service, and the sounds produced are of two kinds, those proceeding from the pregnancy itself and those which are independent of it. Of the first, there are the uterine *bruit de souffle* and the double sound resulting from the contractions of the fœtal heart, the fœtal *souffle* dependent upon the circulation of the fœtus, and the uterine *souffle* dependent upon the maternal circulation. Finally, there are sounds due to the active movements of the fœtus, as the *bruits de choc*, which may be both perceived by the hand and heard by the ear. We may also perceive by palpation, as well as by the ear, a friction sound (*bruit de frottement*). As to the sounds independent of pregnancy which are heard in women with child, it is of importance not to confound them. They may arise from the constriction of the muscles of the abdomen, or from the vesicular expansion of the lungs, which in some women extend from above downward. So also the sounds produced by the beating of the heart of the mother may be transmitted to the cavity of the abdomen, and these are to be distinguished from those of the fœtus by their isochronism with the pulse. Finally,

there are the pulsations of the aorta and the sounds due to the presence of gas in the digestive canal, especially in nervous and impressionable women.

Administration of Cinchona to Children.

Having had several cases of intermittent fever lately in the Enfants Malades, Dr. Jules Simon addressed some observations (*Gaz. des Hôp.*, August 25) to his class, on the above subject. It is seldom, he observes, that powdered bark is administered to children; but still it is someitmes given, in *café noir*, after the age of four or five, in quantities of two or three grams daily. For his own part, he prefers one or two grams daily of the soft extract for children when more than two years old. Before that age it causes indigestion, as does also the vinum cinchonæ. Even the syrup can scarcely be borne while the child is still suckling. After the second year, the vinum is a very good medicine —that is, on the condition that it is prescribed properly. We may often see pale, anæmic little girls, for whom bark wine, iron, or phosphate of lime, etc., has been prescribed, and has done more harm than good. Certainly for the first few days a dessertspoonful of cinchona wine given before a meal (as it is generally ordered) will produce a stimulus and a better appetite and tone; but the improvement is only temporary, and we soon find that the appetite is lost again, pains of the head supervening, and the child becoming nervous, etc. Why is the improvement of so short a duration, and more apparent than real? Owing to a slight precaution being forgotten—the dilution of the cinchona wine with a little water. So diluted, and administered immediately before the meal, it will cause no inconvenience. Still, if, in spite of the addition of a small quantity of water, dyspepsia and headache should still supervene, or if constipation should occur, the cinchona should be suspended for a time. This addition of water to the wine is of very great importance, as is the suspension of the medicine when any great susceptibility exists; and the observation holds good also with regard to quinine wine. Syrup of cinchona is a tonic which may be given to a child after its fifteenth month, and the alcoholic tincture may be begun with after the second year—associating it advantageously with bitter preparations. The action of cinchona upon the alimentary canal is complex, giving tone, appetite. and slight constipation when properly administered, and inducing dyspepsia when given badly. It renders the pulse stronger, fuller, and more regular, and aids the development of the blood globules. It acts favorably on the nervous system when properly prescribed, but only does mischief when the precautions mentioned are not observed—producing stomachal vertigo and an irritability of disposition. Cinchona also has the property of diminishing the urinary secretion, and is contra-indicated in cases in which this is deficient.

Of the salts of quinia, the sulphate is the only one Dr. Simon employs, giving it in powder in *café noir*, or, when the child is old enough, in a wafer. Owing to its bitterness, it may be given in silvered pills of a centigram each, which can be concealed in preserve. When the child refuses it thus, it may be given in solution, facilitating its tolerance and preventing griping by a little opium, which does not interfere with the effect of the quinine. It is best given immediately before meals. Quinine may also be given advantageously in an enema in rather larger doses and combined with a drop of laudanum. Used externally, in the form of an ointment made up with equal parts of lard, the quinia is only found in the urine by the third day in children above two years of age, and somewhat earlier in those who are younger.

Why Does Labor Come On?

Dr. A. Geyl, of Dordrecht, in the *Archiv für Gynäkologie*, applied the Darwinian theory to answer the questions, to which so many more or less imperfect replies have been given: Why does labor come on? and, Why does it come on at the end of the ninth month? Dr. Geyl's view is this: that it depends upon an inherited tendency to expel the child as soon as it has reached the stage of development most favorable to its separate existence, and yet permitting of its passage through the pelvis. A woman with a tendency to expel the child too soon, before it was properly viable, or to retain it too long, till it was too big to traverse the pelvis, would not, of course, transmit this peculiarity to any descendant. And it is obvious that the offspring of those mothers who expelled their young at precisely the most favorable time, when the greatest degree of development compatible with safe delivery had been reached, would have a better chance of surviving than those born a little too early or too late. Dr. Geyl explains the wide differences in the duration of pregnancy by supposing that peculiarities in this direction are transmitted; *i. e.*, given a race of women with small pelves, it would be to the advantage of that race, if with the small pelvis went a tendency to the expulsion of the child before it had got very big; in the absence of that tendency the race would die out, If this were the only cause, it is plain that in the same woman pregnancy ought to always last nearly the same length of time. Dr. Geyl adduces some, but very incomplete, evidence in support of his theory. The theory, however, if true, is not an explanation. We have yet to know the mechanism by which such adaptation is effected.

The Heredity of Color Blindness.

In a late lecture on heredity, Prof. John Hutchinson speaks of color blindness:—

This, which is much more frequently found in men than in women, and is very common among Jews, presents many puzzling features to account for. It is remarkably hereditary, and Dr. Wilson, who has given much time to its study, declares that for each case observed at least one other occurs, as is true also of ichthyosis. Color-blindness, however, is not entirely confined to the male sex, although united testimony agrees in ascribing it much more commonly to males

than to females. The classes most usually affected are the uneducated, Jews and Quakers. At birth, possibly, there may be no more than a proneness to the condition in the infant, which, however, becomes intensified into actual defect at a very early age. It is certainly not associated with any structural omission, either in the eye or brain, nor can it be cured when it is definitely developed. There are facts tending to prove that an affected female may transmit the tendency to her offspring, and that succeeding generations are then influenced in direct descent; but such an occurrence is, nevertheless, very uncommon. That the male parent may transmit the disease to sons is generally observed, as also that daughters very commonly escape, the exemption being due in some degree to sexual prepotency, but also to the fact that the color sense in the female is both more definitely developed and more rigorously cultivated than is the case with males. The comparative neglect of the color-sense among Jews and Quakers, too, will serve to explain the frequency of color-blindness in those two races during the period of education. In the case of Quakers, too, education has played an important part, and many whose color-sense has been offended by the subdued coloring of Quaker surroundings have, from time to time, removed themselves from the sect, thus intensifying the tendency in the remaining members. As well will this explanation apply to the absence of a musical sense, which is associated with color-blindness very often. Mr. Hutchinson suggested that intermarriage among Jews and Quakers has strengthened the hereditary tendency to this defect. Its non-occurrence among highly cultivated classes is an undoubted fact, and tends to illustrate the high perceptibility of the sense.

Iodoform in Porrigo Decalvans.

Speaking of iodoform, Dr. W. Frazer says, in the *British Medical Journal:* I feel desirous of directing special attention to the properties it possesses of promoting the cure of that very troublesome affection, porrigo decalvans. The best results that I have, as yet, obtained in this disease have followed the application of vesicating collodion over the affected spot, and for a short distance around it. Previous to this it is well to epilate all diseased hairs over the spot, and, when the blister is healing, the ointment of iodoform should be applied night and morning, or oftener, and by this treatment the hair soon appears in a healthy condition. A few weeks since a case came under my charge, where croton oil had been applied with exceptionally disastrous results, and which may serve as a caution against its use. The little sufferer, a strumous child of about six years of age, had some diluted croton oil rubbed into the spots of porrigo scattered over her head; it produced violent local irritation, which extended over the entire scalp and the face, where confluent patches of exudation formed, and much of the back of the neck was also affected, the glands of the neck becoming swollen. The entire body and limbs became of a deep-red color, like scarlatina or erysipelas, and studding this were numerous suppurating points. This affection may have originated through the child applying its hands to the scalp saturated with the croton-oil, and then transferring the irritant to the rest of the body; but I am inclined to think this would only explain some of the results, and that there was an outbreak of cutaneous rash, like what we see in acute eczema. At all events, the condition was one of extreme misery, and the poor sufferer was equally distressed in mind, declaring that she would go "mad" with the constant burning pain, tingling and irritation. I applied vaseline over all the body, as in a case of extensive burn, and after a fortnight the attack subsided, the cuticle desquamating. The ointment of iodoform was then used for the eruption of porrigo, which, it may be stated, was still increased and extending, dispersed through the hair in scattered patches; the result, after a time, was all that could be desired. It is needless to describe the constitutional treatment which was employed at the same time. It is well to be cautious in applying croton oil, unless with great care and discrimination; some skins possess an exceptional degree of sensibility to the action of this irritant, which is quite capable not only of affecting the special parts to which it is applied, but, in such individuals of originating an acute dermatitis over the entire body, as it did in this girl.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——According to the announcement of the *Atlanta Medical College* the twenty-fourth annual course of lectures will commence October 12th, 1881, and close March 2d, 1882.

——We have also received, in a reprint from the *Journal of Nervous and Mental Diseases*, for July, 1881, a second contribution to the Study of Localized Cerebral Lesions, by the same author.

——We have received a copy of the Constitution and Report of Proceedings of Annual Meeting, March 18th, 1881, of the Alumnæ Association of the Woman's Medical College of Pennsylvania.

——Dr. Ralph L. Parsons, of Greenmont-on-the-Hudson, near Sing Sing, N. Y., sends us, in a reprint from the *Alienist and Neurologist* for October, 1881, a valuable paper on the Private Care of the Insane, to which we shall have occasion to refer elsewhere.

——*Pleural Effusions, with Special Reference to Pyothorax*, is the subject of an address delivered before the Medical Society of New Jersey by Dr. Alex. N. Dougherty. It comes to us in the form of a pamphlet extracted from the Transactions of the Society.

——The annual announcement of the course of lectures delivered in the *Philadelphia School of Anatomy* for 1881–82 (forty-third year) is before us. This institution has an able staff of instructors, and affords special advantages to students and practitioners who wish to take a thorough course in practical medicine and surgery.

——The *Central College of Physicians and Surgeons*, Indianapolis, Ind., announces the following programme for its third annual course: The preliminary course will commence on Wednesday, September 14th, 1881, and continue until the commencement of the regular session. The regular session will commence on Monday, October 3d, 1881, and continue till March 1st, 1882.

——A reprint from the *Medical Record*, August 6th and 13th, 1881, of an essay on the Importance of the Early Recognition of Epilepsy, which was read before the Connecticut State Medical Society, May 26th, by Dr. E. C. Seguin, of New York is before us. A number of cases are recorded, illustrating how, through errors in diagnosis, proper treatment has been delayed for months and years, perhaps until the stage of curability has been passed. The author enumerates the chief diagnostic symptoms of the disease by which it may be distinguished from other forms of eclampsia.

BOOK NOTICES.

Antiseptic Surgery, the Principles, Modes of Application and Results of the Lister Dressing. By Dr. Just Lucas Championnière, Surgeon to the Hôpital Tenon, Member of the Société de Chirurgie, Editor of the *Journal de Médecine et de Chirurgie Pratiques*. Translated from the second and completely revised edition, with the special sanction of the author, and edited by Frederic Henry Gerrish, A M., M D., Surgeon to the Maine General Hospital, Professor of Materia Medica and Therapeutics in Bowdoin College, etc. Portland: Loring, Short & Harmon, 1881. Cloth, 8vo, pp. 289.

The work before us is an exhaustive treatise on antiseptic surgery, the principle on which it is based and the means by which it may be accomplished, together with a full description of the method developed by Professor Lister and bearing his name. With this method the author had made himself acquainted in 1867, had seen it applied in Glasgow in 1868, and described it to the French surgeons in January, 1869. Since then he has been one of its most enthusiastic advocates, and in 1875 he introduced it in his hospital service. At first it met with a most discouraging reception, but the success attained was so great that its application in surgical practice throughout France is now almost universal. The author insists on a strict adherence to Lister's method in all its details, and where this has been complied with he says that surgical complications do not occur, wounds heal with a rapidity and regularity hitherto unknown, and the most formidable operations may be performed to-day in the Paris hospitals, which a few years ago were reckoned among the most unhealthy, with the same safety as out in the pure country air. As antiseptic surgery does not consist merely in the free use of carbolic acid, as many believe, but in the strict attention to innumerable details, all having for their object the exclusion from wounds of atmospheric germs, and the perfect union by first intention, and as a most minute description of these details is given, and their application to special operations dicussed, we cannot but regard the book as one of the most valuable contributions to surgical literature, and the profession on this side of the Atlantic is greatly indebted to the translator for having placed within their easy reach a work which cannot but prove of inestimable value to all those who practice surgery.

A Manual of Practical Normal Histology, by T. Mitchell Prudden, M D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, N. Y.; Lecturer on Normal Histology in Yale College; Pathologist to the Manhattan Eye and Ear Hospital. New York: G. P. Putnam's Sons, 27 and 29 West 23d street. 1881. Cloth, small 8vo., pp. 265. Price, $1.25.

This work is not intended to supplant any of the larger text books on histology, but rather to serve as a laboratory-guide in the microscopic study of normal tissues. It is exceedingly well written and the subject systematically arranged in chapters, beginning, after a brief introduction, in which the most practical methods of preparing and mounting are described, with the cell in general, and then taking up successively the various tissues, concluding with the histology of special organs. No illustrations are introduced, the author intending that the students shall themselves make sketches from the specimens they prepare. Students and practitioners who wish in a practical way to acquaint themselves with normal histology will find this a useful little book.

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THE GERM THEORY AT THE INTERNATIONAL MEDICAL CONGRESS.

The relation of germs, or, more properly, minute organisms, to the causation and propagation of disease and diseased conditions, is so leading a question, and has so many bearings on both surgery and medicine, that we have reserved for a synoptic view the principal addresses on this subject presented to the International Congress. The leading one was by the veteran M. PASTEUR, which was entitled "On Vaccination in reference to Chicken Cholera and Splenic Fever." It is next to impossible to do justice to this by an abstract. We prefer to make from it a long extract, which will give the manipulations and methods of investigations used in his researches on chicken cholera, as they indicate the plan pursued in these fruitful studies generally. He said:—

Let us take a fowl which is about to die of chicken cholera, and let us dip the end of a delicate glass rod in the blood of the fowl, with the usual precautions, upon which I need not here dwell. Let us then touch with this charged point some *bouillon de poule*, very clear, but first of all rendered sterile under a temperature of about 115° Cent. (239° Fahr.), and under conditions in which neither the outer air nor the vases employed can introduce exterior germs—those germs which are in the air or on the surface of all objects. In a short time, if the little culture vase be placed in a temperature of 25° to 35° Cent. (77° to 95° Fahr.), you will see the liquid become turbid and full of tiny micro-organisms, shaped like the figure 8, but often so small that under a high magnifying power they appear like points. Take from this vase a drop as small as you please, no more than can be carried on the point of a glass rod as sharp as a needle, and touch with this point a fresh quantity of sterilized *bouillon de poule* placed in a second vase, and the same phenomenon is produced. You deal in the same way with a third culture vase, with a fourth, and so on to a hundred, or even a thousand, and, invariably, within a few hours the culture liquid becomes turbid and filled with the same minute organisms. At the end of two or three days' exposure to a temperature of about 30° Cent. (86° Fahr.), the thickness of the liquid disappears, and a sediment is formed at the bottom of the vase. This signifies that the development of the minute organism has ceased—in other words, all the little points which caused the turbid appearance of the liquid have fallen to the bottom of the vase; and things will remain in this condition for a longer or shorter time, for months even, without either the liquid or the deposit undergoing any visible modification, inasmuch as we have taken care to exclude the germs of the atmosphere. A little stopper of cotton sifts the air which enters or issues from the vase through changes of temperature.

Let us take one of our series of culture preparations—the hundredth or the thousandth, for instance—and compare it in respect to its virulence with the blood of a fowl which has died of cholera; in other words, let us inoculate under the skin ten fowls, for instance, each separately, with a tiny drop of infectious blood, and ten others with a similar quantity of the liquid in which the deposit has first been shaken up. Strange to say, the latter ten fowls will die as quickly and with the same symptoms as the former ten; the blood of all will be found to contain after death the same minute infectious organisms. This equality, so to speak, in the virulence both of the culture preparation and of the blood, is due to an apparently trivial circumstance. I have made a hundred culture preparations—at least, I have understood that this was done—without leaving any considerable interval between the impregnations. Well, here we have the cause of the equality in the virulence.

Let us now repeat exactly our successive cultures with this single difference, that we pass from one culture to that which follows it, from the hundredth to, say, the hundred and first, at intervals of a fortnight, a month, two months, three months or ten months. If, now, we compare the virulence of the successive cultures, a great change will be observed. It will be readily seen, from an inoculation of a series of ten fowls, that the virulence of one culture differs from that of the blood and from that of a preceding culture, when a sufficiently long interval elapses

between the impregnation of one culture with the micro-organism of the preceding. More than that, we may recognize by this mode of observation that it is possible to prepare cultures of varying degrees of virulence. One preparation will kill eight fowls out of ten, another five out of ten, another one out of ten, another none at all, although the micro-organism may still be cultivated. In fact, what is no less strange, if you take each of these cultures of attenuated virulence at a point of departure in the preparation of successive cultures and without appreciable interval in the impregnation, the whole series of these cultures will reproduce the attenuated virulence of that which has served as the starting point. Similarly, where the virulence is null, it produces no effect.

How, then, it may be asked, are the effects of these attenuated virulences revealed in the fowls? They are revealed by a local disorder, by a morbid modification more or less profound in a muscle, if it is a muscle which has been inoculated with the virus. The muscle is filled with micro-organisms, which are easily recognized, because the attenuated ones have almost the bulk, the form, and the appearance of the most virulent. But why is not the local disorder followed by death? For a moment, let us answer by a statement of facts. They are these: the local disorder ceases of itself more or less speedily, the micro-organism is absorbed and digested, if one may say so, and little by little the muscle regains its normal condition. Then the disease has disappeared. When we inoculate with the micro-organism the virulence of which is null there is not even local disorder; the *natura medicatrix* carries it off at once; and here, indeed, we see the influence of the resistance of life, since this micro-organism the virulence of which is null multiplies itself.

A little farther, and we touch the principle of vaccination. When the fowls have been rendered sufficiently ill by the attenuated virus which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects, or only effects of a passing character. In fact, they no longer die from the mortal virus, and for a time sufficiently long, which in some cases may exceed a year, chicken cholera cannot touch them, especially under the ordinary conditions of contagion which exist in fowl-houses. At this critical point of our manipulation—that is to say, in this interval of time which we have placed between two cultures, and which causes the attenuation, what occurs? I shall show you that in this interval the agent which intervenes is the oxygen of the air. Nothing more easily admits of proof. Let us produce a culture in a tube containing very little air, and close this tube with an enameller's lamp. The micro-organism in developing itself will speedily take all the oxygen of the tube and of the liquid, after which it will be perfectly free from contact with oxygen. In this case it does not appear that the micro organism becomes appreciably attenuated, even after a great lapse of time. The oxygen of the air, then, would seem to be a possible modifying agent of the virulence of the micro-organism of chicken cholera—that is to say, it may modify more or less the facility of its development in the body of animals. May we not be here in presence of a general law applicable to all kinds of virus? What benefits may not be the result? We may hope to discover in this way the vaccine of all virulent diseases; and what is more natural than to begin our investigation of the vaccine of what we in French call *charbon*, what you in England call splenic fever, and what in Russia is known as the Siberian pest, and in Germany as the *milzbrand*.

Pursuing this investigation into splenic fever, it was rewarded with such practical and beneficial results that it was demonstrated that this destructive plague, which annually carries off animals in France to the value of four million dollars, could be stayed by proper inoculation.

The demonstrations of Dr. Robert Koch, of Berlin, were not less rich in matter. He showed, in beautifully accurate experiments, the modes of cultivating and reproducing microscopic organisms. He exhibited specimens of *micrococcus prodigiosus*, which produces a red pigment, and also of the bacillus which causes blue pus, and that which causes blue milk. Other forms of bacilli were shown which microscopically were indistinguishable, but which could be at once separated from each other by differences in their mode of growth on solid substances. The advantages of a solid rather than a liquid cultivating material being thus apparent, Dr. Koch next turned his attention to the solidification of other cultivating materials, such as would nourish pathogenic bacteria, and he found that by the addition of gelatine to the fluid, used in the proportion of three or four per cent., a solid cultivating material was obtained, whose power of nourishing organisms was not in any way interfered with by the presence of the gelatine.

Some of this material, being rendered fluid by heating and spread out on a slide, was allowed to solidify, and then bacteria could be sown on it, and their mode of growth watched with a low power of the microscope. Thus a minute quantity of dry earth was scattered over such a slide, and in a few hours development could be seen to be accruing around almost every particle. In this particular specimen seven different sorts of bacilli were present; many of these could not have been distinguished from each other by the

microscope, but a difference was at once observed between their mode of growth on the solid substance, some forming round balls, others growing out in a star-shaped manner, others growing in a fine network, etc.

In the same way the number and nature of the organisms present in any given quantity of air could be estimated. A broad, shallow vessel was filled with the gelatine mixture and exposed for a given time to the air. At every point where an organism fell on it growth occurred, and thus the number and nature of the organisms present could be at once ascertained. But, further, as each organism was a pure cultivation, pure flasks could be inoculated from each variety, and thus its further life-history and pathogenic characters could be investigated.

Similarly with water. The material in a test-tube having been rendered fluid, a given quantity of water was shaken up with it till solidification occurred. At every point where an organism was present in the water, development occurred, and thus the number and nature of the organisms present in a given specimen could be at once ascertained.

Dr. Koch also exhibited some of his pathogenic bacteria. Animals which had been killed with anthrax were shown, The fatal nature of the poison was demonstrated ; the constant presence of the *bacillus anthracis*, its mode of growth in the gelatine substance, and its virulent properties after being grown in it, were all made apparent. The bacillus of mouse septicæmia, which is described in his work, was shown in a similar manner. For several months this organism had been cultivated in gelatine blood serum, forming a fine cloudy mass and retaining its form and other characteristics. A minute drop of this was placed under the skin of a mouse. This animal died in forty-eight hours ; and in its blood were numerous bacilli. Another mouse inoculated from this blood also died. In gelatine inoculated with this blood these organisms developed ; and after further cultivations with this, the minutest drop killed another mouse. Septicæmia was shown in pigeons, rabbits, mice, etc., due to a minute bacillus of peculiar form, resembling in appearance the organism of the "*choléra des poules*" of Pasteur. The same sort of proof was given with regard to this organism as in the former case. And lastly, a beautiful form of erysipelas was shown in the ear of rabbits, caused by the inoculation of the rod shaped bacillus of the septicæmia of mice; this sometimes, though not always, killed the animals.

In the section on pathology an address was delivered by Dr. E. Klebs, on the relations of minute organisms to certain specific diseases. We give an extract showing the scope of his paper, and incidentally what may be said to be the latest work on this interesting subject. Referring to the three great groups of lower organisms *Hyphomycetæ*, the *Algæ* and the *Schizomycetæ* he says :—

The *schizomycetæ* furnish, without doubt, by far the most numerous group of infective diseases. We distinguish within this group two widely different series of forms, which we will speak of as bacilli and cocco-bacteria respectively. The former, which was first exhaustively described by Ferdinand Cohn, and the pathological importance of which, especially in relation to the splenic disease of cattle, was first shown by Koch, consist of threads, in the interior of which permanent or resting spores are developed. These spores, becoming free, are able, under suitable conditions of life, again to develope into threads. The whole development of these organisms, and especially the formation of spores, is completed on the surface of the fluids, and under the influence of an abundant supply of oxygen.

The number of affections in which these organisms have been found, and which may be, to a certain extent, produced artificially by the introduction of these organisms into healthy animal bodies, has been largely increased since the discovery of Koch, that the bacteria or splenic fever (anthrax) belong to this group. Under this head must be placed the Bacillus malariæ (Klebs and Tommassi-Crudeli), the bacillus typhi abominalis (Klebs, Ebert), the bacillus typhi exanthematici (Klebs, observations not yet published), the bacillus of hog cholera (Klein), and finally the bacillus leprosus (Neisser). It would exceed the time appointed were I to attempt to describe these forms more minutely. This may, perhaps, be better reserved for discussion and demonstration.

All the diseases named possess one very remarkable property common to them all. They arise from influences which are conveyed to the human body more or less directly from the soil. The conveyance of disease from man to man is, however, by no means excluded ; and in one of these cases it constitutes, indeed, the most frequent mode of communication. We may, perhaps, assume, from the course of the disease, that cholera and yellow fever also belong to this

group. From the history of their origin we may designate these diseases as soil diseases.

Alongside of these general infective diseases produced by bacilli, local affections also occur, which indicate the presence of these organisms at the point where the disease begins. As an example of these processes, which probably occur in various organs, I would mention gastritis bacillaris, of which I shall show you preparations. In this we can trace the entrance of the bacilli into the peptic glands, as well as their further distribution in the walls of the stomach, and in the vascular system.

At the spot where the bacillus enters, inflammatory processes, gangrene and hemorrhage are observed, while its distribution in the circulation appears to be able to lead to serious alterations of other organs. Thus I have once observed the process in a case of acute atrophy of the liver.

The second group of the pathogenetic schizomycetæ I propose to call, with Billroth, coccobacteria, because they consist of collections of micrococci, which are capable of transforming themselves into short rods. The former usually form groups united by zoogloea; by prolongation of the cocci rods are formed, which sprout out, break up by division into chains, and further lead again to the formation of resting masses of cocci. I distinguish, further, in this group two genera, the microsporina and the monadina; in the former of which the micrococci are collected into spherical lumps; in the latter into layers. The one class is developed in artificial cultivation at the bottom of the cultivation fluid; the other on the surface. The former requires a medium poor in oxygen, the latter a medium rich in oxygen, for their development.

Among the affections produced by microsporina I reckon especially the septic processes, and also true diphtheria. On the other hand, to the processes produced by monadina belong especially a large series of diseases, which, according to their clinical and anatomical features, may be characterized as inflammatory processes, acute exanthemata. and infective tumors, or leucocytoses. Of inflammatory processes, those belong here which do not generally lead to suppuration; such as rheumatic affections, including the heart, kidney and liver affections, which accompany this process, sequelæ which, as is well known, lead more especially to formation of connective tissue, and not to suppuration. Here, also, belong croupous pneumonia, the allied disease erysipelas, certain puerperal processes, and finally parotitis epidemica or mumps.

Among the acute exanthemata, the following may, up to the present time, be placed in this group: variolo-vaccina, scarlatina, and measles. The group of infective tumors is represented by tuberculosis, syphilis, and glanders. Throughout the whole group of cocco-bacteria the demonstration of organisms in the diseased parts encounters difficulties, which vary considerably in the different kinds. The demonstration of the comparatively large coccus—or bacteria-masses in sepsis, diphtheria, and rheumatic endocarditis—is comparatively easy and certain; the same demonstration may be extremely difficult in the case of scattered cocci which never form larger groups. This is especially the case in the monadistic processes, and more particularly those of inflammatory nature, and in the acute exanthemata. Still the observation of a quite fresh specimen is easier, on account of the active mobility of these cocci. They often penetrate into the cells, and cause considerable swelling of them, as I have shown in the case of the monadina of pneumonia, which penetrate the ciliated epithelia of the bronchi.

This comprehensive summary is an admirable statement of what is claimed by the adherents of the so-called "germ theory." The warmth with which it was advocated seems to have alarmed Professor Lister himself, who felt called upon to enter a protest against its indefinite extension. In the course of the debate on the relation of minute organisms to unhealthy wounds, he expressed himself as fearing that the relation of micro-organisms to diseased processes, more especially to inflammations, was being exaggerated. He pointed out that many inflammations, more especially chronic inflammations, were caused by the nervous system, and could not in any way be attributed to the presence of micro-organisms, and the success of counter-irritation in the treatment of inflammations demonstrated the same thing. He was inclined to accept Mr. Cheyne's view, that in many cases inflammations arose independently of organisms, which reached the products of inflammation as a result of the disturbance of the constitution which followed.

This caution, we suspect, was timely, and it certainly merits the attention of the germ theorists, who certainly, in some instances, are becoming quite "cranky" on their hobby.

CONSULTATIONS WITH HOMŒOPATHIC PRACTITIONERS.

The expressions in regard to consulting with homœopaths advanced by Dr. Bristowe and Mr. Hutchinson at the last meeting of the British Medical Association, and which we quoted in our last, have met with unanimous condemnation by the English medical press. The *Lancet* suggested that it was part of a deep laid plan of the Association to force this view of the question on the members. This has been denied, not indeed officially, but by individual members of the

council. Certainly the utterances we refer to were unpalatable to most of them, and met, in fact, on the spot, with general condemnation. Considering the position with relation to the Association which they occupied, the speakers certainly transcended the bounds of propriety in advancing their own private views when speaking in an official or at least in a representative capacity.

We cannot too often impress upon the public that this refusal of regular practitioners to consult with homœopaths does not arise from bigotry and prejudice; it does not arise from the opinion that all homœopaths are either knaves or fools; nor does it arise because we want to crowd homœopaths out of business in order to secure more ourselves. Not at all. None of these is the motive. It is because no regular practitioner can, consistently, with his duty *toward his patient* meet a homœopathic physician in consultation. If each consultant is honest in the opinion he professes, no unity of sentiment with regard to treatment can be reached, and the benefit to the patient is entirely lost. This is so clear that any intelligent layman must at once perceive that to have consultants of the two "schools" meet, is a palpable absurdity.

The matter is well put in a recent address to his students by Prof. ANNANDALE, of the University of Edinburgh. He spoke as follows:

> Perhaps the best advice I can give you in regard to the treatment of homœopathy is to treat it as most sensible people treat æsthetics. I have no desire to say anything that is discourteous or personal in regard to homœopathic practitioners themselves. Many of them are educated gentlemen, and are qualified members of our profession; but it is impossible, under present circumstances, that you can have any true sympathy with them in the matter of medical practice. You cannot meet them in consultation, because, although you might agree with them as to the nature or diagnosis of a case of disease, one or other of you must consent to sacrifice your principles and belief when the treatment of the disease has to be decided, and no man with any proper feeling will do this, or should do it, more particularly when the health or life of a human being is concerned.

What we have here said applies quite as well, or even more strongly, to those hybrid practitioners who profess to practice "according to both schools." Any one who does this palters with his own conscience, and deliberately undertakes to deceive the public, because the essence of homœopathy is the sweeping, *exclusive* character of its dogma of the similars, and an honest homœopathist can be nothing but a homœopathist.

Even when, as in the instance of Dr. Kidd, the homœopathic practitioner agrees to be guided entirely by the regular consultant, the question arises, how fair is this to the patient, who has both fees to pay, and who has signified his choice, which he has an undoubted right to exercise, to be dosed by infinitesimals?

We maintain, therefore, that the suggestions opened by the gentleman we have quoted at the outset are ill-timed, impracticable, and can lead to no good result, and ought to be quite as distasteful to homœopathists as to ourselves.

NOTES AND COMMENTS.

Therapeutical Notes.

PERUVIAN BALSAM IN LARYNGEAL ULCERATIONS.

In this disease Dr. M. Schmidt recommends specially antiseptic inhalations of Peruvian balsam. Ten drops of a mixture consisting of two parts of Peruvian balsam to one of spirit of wine, are added to boiling water, and the vapor which rises is inhaled for some time; this is done three or four times a day.

PARSLEY AS AN ANTIGALACTIC.

Dr. Martin, in the *Büll. gen. de Therapeut*, states that if the breasts of a nursing woman be covered with parsley leaves freshly pulled, the application being renewed several times a day, as quickly as the leaves fade, the milk will soon cease to appear. This is an application which may be used when it is impossible to give purgatives or other remedies internally.

PLIABLE IODOFORM.

Dr. Fowler makes a pliable mass for iodoform by mixing it with isinglass and glycerine. The isinglass is reduced to a jelly by steam, and enough glycerine added to give it consistency and pliability. The proportions are as follows: Iodoform, ℥ j.; isinglass, ℥ viij.; glycerine, ℥ iv.

PYROGALLIC ACID AS AN APPLICATION TO SOFT CHANCRES.

MM. Lermoyez and Hitier write very favorably of pyrogallic acid in the treatment of soft chancres, and use the following formula: Pyrogallic

acid and starch, of each 40 parts; vaseline, 120 parts; to be applied twice a day. This acts as a light and superficial caustic on the ulcerated surface, but does not harm the sound skin; it causes slight pain, which soon disappears. Under its influence soft chancres are said to heal up with marvelous rapidity.

INCONTINENCE OF URINE.

Professor Gross advises:—

℞.	Strychniæ,	gr. j
	Pulv. cantharid.,	gr. ij
	Morph., sulph.,	gr. iss
	Pulv ferri,	℈j. M.

Make 40 pills.

Dose: One three times a day to a child ten years old.

Transmission of Tuberculosis by Vaccine.

At a recent meeting of the Paris Academy of Sciences, M. Toussaint communicated some important results of his investigations into the microbial nature of tuberculosis. He had already succeeded, as Klebs and Cohnheim have, in cultivating these organisms, and had found that two drops of the liquid of the fourth artificial cultivation, inoculated into pigs, rendered them speedily and completely tuberculous. He then vaccinated a cow in an advanced stage of tuberculosis with lymph absolutely pure. The vesicles progressed normally, and with the lymph obtained from them he vaccinated different animals, all of whom subsequently became tuberculous. The significance of these experiments can scarcely be overrated, for though a judicious vaccinator would not use lymph taken from a child who exhibited already evidence of the disease, the chances of cows in whom spontaneous vaccinia may appear, and whose lymph would at the present time be eagerly sought after, being, like so many of their species, tuberculous, are great; and it would seem, in consequence, that the dangers of animal vaccination may be greater than those of human, which are supposed to be avoided by having recourse to the cow. As many who fully believe in the existence of a tuberculous microbion have failed in their attempt to cultivate it, we shall at the earliest opportunity give the details of M. Toussaint's methods.

Prevention of Sunstroke.

Though somewhat out of season, we think it worth while to enter for preservation the means of prevention of sunstroke recommended by an English surgeon. He says:—

For seven years of residence in Central China, upon the banks of the Yang-tze-kiang, which annually overflows its banks, I found nothing so protective against sunstroke as ten grains of sulphate of quinine suspended in a wineglassful of sherry, and taken before going out at midday, when required to brave the sun-heat, which is oftener above than below Calcutta temperature. I have tried this plan in so many cases that I feel certain that quinine is as prophylactic against sunstroke as against malarial fever. It was while endeavoring to neutralize the miasma which causes the latter that I noticed how completely I felt braced against the effects of the sun-heat. I should be inclined to dissolve the quinine in hydrobromic acid instead of the sherry.

Hydrobromate of Iron in Chorea.

A correspondent of the *Lancet* gives the following case:

A patient, an anæmic badly nourished girl, aged fourteen, was frightened by a dog, and almost immediately afterward developed choreiform movements. At the time of my visit, two days after the onset, the child's contortions were painful to witness; her sleep was disturbed, and it was with difficulty she could convey her food to her mouth. The heart sounds were normal, and there was no history of previous cardiac or rheumatic affections. After attending to her digestive organs, I prescribed syrup of hydrobromate of iron in twenty minim doses. The effect was very marked. The sedative action was speedily apparent, as the convulsive movements became gradually less severe, and the control of the muscles more readily recovered; whilst at the same time the anæmia was yielding to the accompanying iron. The continued use of the drug for about twenty days completely removed the affection.

Iodoform in the Vulvitis of Children.

Prof. Parrot applies iodoform by means of a badger's-hair pencil at whatever stage the apthæ may be in, covering the parts affected with a thick layer of iodoform without previous cleansing, and then applying a little charpie. This dressing is repeated every twenty-four hours, until amendment takes place, which it usually does very rapidly. Even after the first application it is rare not to find a considerable improvement. The ulcerated parts look as clean as if they had been carefully washed. Their borders sink and their cavities fill up, and when they are not very extensive they are not easily distinguished from the surrounding parts. The changes take place rapidly,

and lead to the speedy disappearance of vulvular or perineal breaches of surface.

Special Reports.

NO. XVIII.—TUBERCULOSIS.

The ravages of tubercular disease are so great and constant that it is a standing opprobrium to medicine that so little check has been made in the mortality from this cause. In nearly every civilized land almost one-fifth of the total deaths are due directly to this form of degeneration. From the very numerous recent studies upon it we make the following abstracts and remarks:—

NATURE OF TUBERCLE.

The Lænnec Prize this year was awarded to Dr. GRAUCHER, for his studies on tubercle. He claims to have demonstrated the identity of the tubercle granulation and the product of the cheesy pneumonia, the latter being composed of large fused tubercles of the condition of meriting the name of tuberculous pneumonia.

The definition of VIRCHOW that the tubercle "is a feeble and miserable neoplasm, incapable of organization," he teaches, should be replaced by this: "tubercle is a fibrocaseous neoplasm of nodular form, characteristic of a disease known as tuberculosis." This definition implies that the author thinks that the ultimate tendencies of the mature tubercle are to a unity of form and results. The earlier forms, indeed, differ and are characteristic of distinct phases of disease. Hence we have the principal clinical forms of phthisis and anatomical varieties of tubercle proper to each. The tuberculous pneumonia, the common phthisis, the granular phthisis, are described by him, each with its particular tubercle endowed with its peculiar characteristics and pursuing a somewhat special evolution, but claiming place in the grand family of tuberculous products by reason of its type of structure, by its origin, by its tendencies, and finally by its transformations.

THE MICROCOCCI OF TUBERCULOSIS.

Certain investigators have thought they had discovered the active agent in tuberculosis to be a micrococcal organism. Their experiments have been repeated by Dr. DEUTSCHMANN. The results which he has obtained do not confirm this view. For instance, some liquid from the anterior chamber of a child suffering from tubercles of the iris was injected into the eye of a rabbit, but without result, although it was found to contain numerous mobile micrococci. These results, DEUTSCHMANN concludes, can only be explained on three hypotheses:—

1. That micrococci have nothing to do with the tubercular infection, or with the tuberculous virus.

2. The micrococci serve only as the vehicles of the tubercular infection when they can germinate in a suitable soil, such as is furnished by the lower layer of the tubercular pus.

3. The specific organisms were placed in such unfavorable conditions that they had no pathogenetic action. It is conceivable, for instance, that the micro-organisms were so rapidly absorbed from the anterior chamber, and so rapidly rendered harmless in the blood, that they had no effect, whereas the slower absorption of the lower pus layer gave them time to multiply in it.

THE INFECTIOUS NATURE OF TUBERCLE.

In a quite recent article in *Virchow's Archiv* the distinguished Prof. RINDFLEISCH expresses himself in the most positive manner in favor of the infectious character of tuberculosis. He states that he considers it demonstrated by the repeated instances in which the disease in the lower animals has followed on their vaccination with tuberculous matter. It is true that the human race is much less liable to contract the disease in this way, but this he attributes to their having acquired a degree of tolerance to the poison, just as they have to leprosy, and in a less degree to syphilis. Phthisis, he believes, is in fact a more contagious disease than syphilis, only we are more generally unused to its prevalence. Tuberculous inflammation he describes as a definite histological process, which the inflammatory action takes on under the specific tuberculous poisons. He divides it into four forms:—

1. Disseminated miliary tuberculosis.

2. Localized miliary tuberculosis, where a single organ is attacked.

3. Tuberculous phthisis, where a single part of an organ is attacked.

4. Chronic caseous and scrofulous inflammations.

The last mentioned are, almost without exception, connected with tuberculosis of the lymphatic glands.

In the same journal (vol. 82) Dr. TAPPEINER gives some further experiments on dogs, to confirm his previous observations on the infective properties of phthisical sputa when inhaled, and to ascertain whether scrofulous pus, or ordinary bronchitis sputum, had the same effect. Four dogs were placed under similar conditions, but two were made to inhale diluted phthisical, and two diluted scrofulous, pus. They were all killed

and their organs examined. Those of the latter two were quite normal, while the lungs and spleen of the former two were studded with miliary tubercles, which were examined and described by Dr. FRIEDLANDER. Further experiments proved that the duration of the incubation of tubercle in dogs is between nineteen and twenty-three days. Bronchitis sputa were innocuous.

The experiments of Dr. MARTIN, of Paris, published last winter (*Gazette Medicale*, January, 1881), appear to show conclusively that, although it is true that indifferent substances may give rise to tubercular eruptions, identical in their histological characters with genuine tuberculosis, yet the tubercle of tuberculosis possessed the property of infection, whereas the pseudo tubercle did not. Moreover, the true tubercle became more virulent with every repetition of inoculation on a fresh subject, while the pseudo-tubercle never produced more than local lesions, which did not extend to the neighboring vessels and lymphatic glands; while even this local infective power died out, when successive inoculations were made at the third or fourth in the series.

The transmission of tubercle from the bovine species to man has recently been carefully studied in a work by Dr. CHARLES CREIGHTON, entitled *Bovine Tuberculosis in Man* (London, MacMillan & Co.) The main question which the book seeks to answer is this: Since bovine tuberculosis can be communicated to other animals, has it ever been communicated to man? To this question Dr. CREIGHTON gives unhesitatingly an affirmative answer, basing his conclusions entirely on morphological resemblances. To justify such a conclusion we have, however, a right to ask, not only that resemblances between bovine tuberculosis and certain cases of tuberculosis in man should be shown, but also that some well-marked points of difference should be pointed out between these presumed cases of bovine tuberculosis in man and ordinary human tuberculosis.

The contagion of tubercle is in the *blood* of the phthisical. This has been conclusively demonstrated by Dr. P. BAUMGARTEN, Prosector in Königsberg, in a very scientific series of experiments reported in the *Centralblatt für Med. Wis.*, No. 15, 1881. They also, he claims, distinctly contradict the theory that tuberculous poisoning results from the products of inflammation, or that in any way inflammation is a necessary forerunner of tuberculosis.

THE PNEUMOKONIOSES.

This is the general term applied to those forms of lung infiltration known as "miner's" or "mason's" consumption. They have been recently studied by Dr. WM. ROBERT SMITH (London *Medical Times and Gazette*, May 28th, 1881).

Pneumokonioses is a general term applied to—1, Anthracosis, or coal miner's lung; 2, Silecosis, or stone mason's lung; 3, Siderosis, or steel or brass finisher's lung. In anthracosis the lung is large, voluminous, and increased in weight; the pleura has a universal bluish black color, while general pigmentation and nodules of pigment are likewise found in the lung. If the pigment is only present in small quantities, it is seen running in lines between the lobules; on section the nodules are found to be very distinct, being about the size of a millet-seed. They are hard and intensely black, and are universally distributed throughout the organ; in some places they look like little masses of charcoal. Upon squeezing the organ a blackish fluid exudes, which stains the hands. In severe cases the lung breaks down and forms a gangrenous-like cavity, which differs from ordinary cavities in not being rounded—it is more like a gangrene or slough.

Silecosis is caused by the inhalation of small sand, and it can be at once detected by feeling the lung, which is found to be nodulated. On making a section of the organ, the nodules are seen to be very abundantly distributed through its substance; the organ feels very fibrous, and in some cases actually gritty; the surrounding lung-tissue is in a state of advanced cirrhosis. Besides these changes, bronchiectatic cavities are found, which are regular in shape (usually pyriform), having the broad end directed towards the pleura; they have a distinct glistening lining membrane, which is the elastic basement membrane of the bronchi. With the low magnifying power a large quantity of fibrous tissue is seen, and in this, of a grayish color, the nodules are found. Some amount of pigment is present, but not more than is normally found.

TUBERCULAR PERICARDITIS.

This is a rare affection, an instance of which is described in *Jour. de Med. de Bordeaux*, April, by Dr. VAILLARD.

A girl of 19 died of tubercular meningitis, with extensive enlargement and caseation of the lymphatic glands. The parietal and visceral layers of the pericardium were connected by soft adhesions, and each was covered by false membrane; the visceral layer was studded with granulations and small nodules of caseous tubercle. At a distance from these nodules the microscopical examination showed the proper tissue of the membrane to be somewhat thickened and continuous with a new membrane on the surface, which was almost perfectly organized. Sections through the yellow tubercles showed, even in the thickness of the visceral layer, a small oblong caseous mass, permeated by the remains of tracts of fibrous tissue in process of destruction. No giant-cells were seen in it. Around this caseous centre was a layer of embryonal cells, most marked in the deep layer of the serous membrane. Over the nodule extended the false membrane already described. The subjacent muscular fibres of the heart were fattily degenerated.

Sometimes the inflammatory development at the heart is the first local manifestation of tuberculosis; and for that reason these cases, though rare, are not to be overlooked.

TUBERCULOSIS OF THE LARYNX.

"Laryngeal phthisis," as a separate form of the disease, is doubted by some. A case of primary tuberculosis of the larynx is, however, carefully and fully described by Dr. J. SOLIS COHEN, in the *Archives of Laryngology*, April, 1881.

At the *post-mortem* examination, tuberculous deposits and small cavities were found in the left lung. A few caseous glands were observed in the cervical region at the left side. The ulceration of the glosso-epiglottic sinuses was extensive, and had continued into the base of the tongue, with a partial loss of substance on the right side. The tonsils, vocal cords, and the whole of the subglottic mucous membrane of the larynx were intact. The microscope revealed the submucous connective tissue largely infiltrated with a small-celled product, which showed in places a tendency to the formation of depôts with cheesy centres. There was no history of predisposition to tubercular disease, and the exciting cause was probably exposure to intense cold.

A study of the histology of this disease, by Dr. PH. SHECH, of Munich, is given in Schmidt's *Jahrbuch*, No. 1, 1881. He finds that the affection of the mucous surface is only the local development of true tubercle. In regard to prognosis and therapeutics, he is not hopeful. He usually begins for a few weeks with iodide of potash, in the hope that syphilis is at the bottom of the trouble. At the same time, or later, he advises disinfecting insufflations of boracic acid, to which, if there is difficulty in swallowing, a little morphia may be added. The local treatment with nitrate of silver he wholly condemns.

Dr. MAURICE SCHMIDT, of Frankfort on the-Main, claims, in this disease, to have had good results from a form of inhalation. He places a vessel containing a pint of boiling water over a spirit lamp, and pours in it ten drops of the following:

℞. Balsami peruviani, ʒiv.
Alcoholis, ʒij. M.

The patient inhales the vapor through a funnel of paper, folded in a conical form, about a yard in length. These inhalations should be repeated three or four times a day, and continued for months. In addition to this he sacrifices the superior and posterior surfaces of the larynx (*Annales des Mal. de l'Oreille et du Larynx. Mars*, 1881).

TUBERCULOSIS OF THE NASO-PHARYNX AND EAR.

Basing his statistics on the autopsies of fifty phthisical patients, Dr. E. FRANKEL (*Zeitschrift für Ohrenheilkunde*, x, 1881) finds that twenty-nine of them presented tubercular changes in the ear or naso-pharynx. In most cases these were tubercular ulcerations or inflammations in other cysts or swellings. The investigation is instructive, as showing the profound impregnation of the system with the tubercular poison.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS.

A case of this is recorded by Dr. G. FENNE in the *Nord. Med. Arkiv* (London *Medical Record*):—

A girl, aged eighteen, had suffered for some months from pains in the region of the bladder and urethra, with frequent desire to pass urine. She had generally been healthy, but now and then suffered from suppression of the menses. A short time before her illness she had coitus; there were no important symptoms of urethritis. On admission to hospital she seemed sound and healthy. The above-mentioned symptoms continued. There was tenderness on palpation over the symphysis pubis. The urine was of a light yellow color, turbid, with a whitish, slimy, finely divided sediment; it was alkaline, of specific gravity 1.015, and contained albumen; about the normal quantities of chlorides and phosphates were present. Microscopic examination showed numerous round cells and some red blood corpuscles, with flattened epithelium. The symptoms were unchanged by treatment. She became affected with rigors, headache, nausea, vomiting and hiccough. The tongue had a white deposit. The alvine evacuations were generally normal. She had pain in the middle of the hypogastrium. On the last day of her life she had several attacks of painful micturition, passing only about a spoonful of fluid blood each time. At the necropsy the papillæ and pyramids of the kidneys were found to be the seat of cheesy infiltration; tubercles were scattered through the pelves and the whole substance of the kidneys. The entire mucous membrane of the bladder was the seat of tuberculous ulceration. The urinary organs alone were affected. The starting point of the disease was probably the bladder, as this organ was most extensively diseased.

Connection with a tuberculous individual is suggested as having been the cause of the disease. Were this the case, it would have many important bearings.

(*To be continued.*)

NEWS AND MISCELLANY.

Novel Medical Electrical Apparatus.

A Paris correspondent describes the medical apparatus in the late Electrical Exhibition in that city. The best show is by the French exhibitors. Messrs. Brewer Brothers exhibit a galvanic battery constructed by them for Dr. Onimus, and which is not sufficiently known. Each element consists of an external glass cell, which receives in its upper half a zinc cylinder. This is con-

nected by a copper wire with a disk of the same metal lying at the bottom of the next cell. Inside the cylinder, and resting upon the disk, is a glass tube closed below by a porous gun-wad. To set the battery in action the inner tubes are partially filled with coarsely-powdered sulphate of copper, and water poured into them, and into the outer cells to the upper margins of the cylinders. A modification of this element has been designed by Dr. Senre. Each cell is a U-shaped tube, containing a plug of sponge in the bend. On one side of the sponge is a stratum of sand, and above this sulphate of copper. The other arm of the tube is empty. The metallic portion of the element is formed by a copper coil, dipping into the charged half, and connected with a zinc plate in the empty arm of the adjacent cell. As in the battery of Dr. Onimus, the addition of water puts the element in action. Another good galvanic apparatus is shown by M. Trouvé, but, besides its higher price, it has the disadvantage of requiring a skilled workman to re-charge it when once run down. M. Trouvé also exhibits his polyscope, an ingenious application of Planté's secondary cell to medical exploration. Practically the polyscope is most useful as a companion to the vaginal speculum, but it may be employed for the illumination of any other part. A modification in the arrangement of the platinum wire, which in the polyscope is the source of light, transforms the apparatus into a delicate galvano-thermic cautery suitable for operations in the auditory meatus, about the eyelids, or in any other region where a filiform instrument with the minimum of radiation might be required. In an adjoining room the Assistance Publique display all the electro-therapeutic resources of the Salpétrière. First there is an imposing cabinet, covered with wires, studded with screw heads, fitted with the most elaborate means of determining current-strength and capable of furnishing any kind of dynamic electricity at a moment's notice. Close at hand is a powerful static machine, a combination of the Carré and Holtz models, designed by M. Vigoureux. This apparatus is worked by a gas motor, and can evolve electricity enough for the treatment of six patients at the same time. Dr. Boudet de Paris shows a number of appliances for physiological and clinical research. A cardiophone, with experimental demonstrations on the batrachia twice a week; a sphygmophone and a myophone; an electric diapason, for the treatment of pain by mechanical vibrations; and a coil set in a wooden frame, and arranged to encircle the head, for the induction of the nervous centres. There are many other electro-medical exhibits both in the French and foreign sections. Perhaps the chief characteristics of the medical department are the number and variety of frictional machines, from which it may be gathered that an attempt is being made to restore Franklinism, partially at any rate, to its former favor.

Epidemics.

Recent Russian journals report the reappearance of diphtheria, after a slight cessation of its ravages, in an epidemic form in Southern Russia, and particularly in the governments of Poltava and Pritovki. In the previous extensive and fatal prevalence of the disease in this portion of the Russian Empire the children of the necessitous classes were mainly attacked, but in the present prevalence the children of the well to do classes do not escape.

Intelligence is forwarded from Alexandria that cholera has broken out at Aden, and that thirty cases out of thirty-seven have proved fatal. The *National Zeitung*, referring to the recent outbreak of cholera in Asia, urges the appointment of an international sanitary commission. The Spanish Government has taken very stringent measures to prevent the progagation of cholera. The mail-boats which run between Spain and the Philippine Islands have been forbidden to touch at Aden either on the outward or homeward voyage. Cholera is also very severe in Lahore and elsewhere in India. It is alleged that the mortality is entirely confined to Mussulmen, and is due to Ramadan, the Mahomedan month of fasting recently passed. During this month the men work all day without food, and eat a heavy meal at night.

The Adaptable Porous Felt Splint.

Our readers will probably have noticed the advertisement of the Ahl Adaptable Porous Felt Splint Co., in our advertising pages. If they have not, we would call their especial attention to it. We have known and used this splint for many years, and pronounce it, emphatically, not only the best splint in the market, but the only manufactured splint which a surgeon ought to use. Any one who has once tried a set of them and learned their manifold advantages will not practice without them. They are, indeed, especially in their present improved form, as near the perfection of a splint as we can imagine. In years past we have published various articles upon them, and a longer experience more than confirms all the good that has been said of them.

We strongly advise our readers to apply to the company for a descriptive illustrated pamphlet, which is sent on application, and which will inform them of the details about these, in our opinion, quite unequaled surgical splints.

Lectures on Skin Diseases.

Dr. Bulkley will give a fifth course of lectures on "Diseases of the Skin," in the Pathological Amphitheatre of the New York Hospital, 7 West Fifteenth street, Wednesday afternoons, from 2½ to 3½ o'clock, commencing Wednesday, October 12, 1881. The lectures will be didactic and clinical in character, going over the entire subject of diseases of the skin (including syphilis), and will be freely illustrated by colored plates, photographs, life-sized models, the blackboard, and abundant clinical material. The pathology, differential diagnosis, and treatment of diseases of the skin will be especially considered. The course will consist of twenty-four lectures, and will be free to practitioners of medicine and medical students.

Items.

—An outburst of vaccinal syphilis is reported from Algiers. Fifty-eight recruits, belonging to the 4th Regiment of Zouaves, are said to have acquired the disease in this manner on the 30th of last December.

—Dr. James Luke, F.R.S., died recently in England, at the age of eighty-two. He was twice President of the Royal College of Surgeons, studied under Abernethy and Astley Cooper, and placed the world under notable obligations to him by the special attention he devoted to hernia.

—It is reported that a terrible plague has appeared near Waldron, Platte county, Missouri. Within five days eleven persons died, and none of those now sick show signs of recovery. The bodies of the sufferers are covered with black eruptions, and after death "the flesh falls from the bones, so that the bodies cannot be lifted into coffins without falling to pieces."

—A sample of water from the Sacred Well of Mecca has been analyzed and found to be polluted by sewage to an extraordinary degree of disease-breeding filthiness. In fact, Professor Frankland, who made the analysis, declares that it is nothing less than bottled cholera, and, as this water is in great demand throughout Mohammedan countries, it is manifest that it is likely to be an active agent in the dissemination of disease.

—The *Public Ledger* of this city pertinently says: "The world is getting on pretty near the close of the nineteenth century, and yet it appears to be necessary for skilled physicians and sanitarians to make formal argument before a committee of our City Councils to convince Councils that vaccination is a safeguard against the fatal ravages of small-pox! A hundred years of accumulated experience seems to have gone for nothing."

—At the close of the seventeenth century it was estimated that 3000 persons in every million living died annually of the small-pox. Macaulay's description of the ravages of the disease is thus: "The small-pox was always present, filling the churchyards with corpses, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover."

—Canon Rawstorne says, in a late sermon, "It is patent to everybody that those professions which are doing a real work tolerate but little ceremonial. There was a time when the doctor of medicine had as many paraphernalia as a divine; and had a regular routine with all cases, like that ridiculed by Molière and Le Sage, curing, or perhaps killing, but always acting *selon les règles, secundum artem.* All that is quite gone. A doctor who tried to envelop himself in ceremony would be set down at once as a charlatan; as he would no doubt be. All medical subjects are submitted to the freest investigation; everything is reduced to bare scientific truth, and mere reality."

OBITUARY NOTICES.

DR. JOHN BOWEN BRINTON.

Dr. John Bowen Brinton died at his residence in West Chester, Pa., October 13th, after a lingering illness of about a year. He was about 77 years of age. Dr. Brinton was the son of Caleb Brinton, of East Bradford, Chester Co., Pa., and was born on the Brandywine in 1804. He was descended, through his father, from William Brinton, the Elder, who settled in 1684, in Thornbury Township, Delaware County. He studied medicine under Dr. George McClellan, of Philadelphia, whose wife was Dr. Brinton's cousin and a daughter of the late John H. Brinton, Esq., of Philadelphia. He graduated at the Jefferson Medical College of Philadelphia, in 1825, after which he passed a year in the Philadelphia Hospital. In 1826 he came to West Chester, and soon after married Miss Caroline Gemmill, whose father was the principal of the Chester County Academy, who died leaving one child, a daughter. The Doctor married a second wife, Miss Ellen M. Irwin, of Lewistown. Three sons and three daughters were the issue of this marriage, the eldest, Dr. William B. Brinton, being his father's successor in practice. The elder Dr. Brinton was devoted to his profession, and especially to surgery, in which branch he stood at the summit of the profession in Chester County. He was always regarded as a most conscientious practitioner, discharging his duties to his patients with unwearying fidelity.

QUERIES AND REPLIES.

Hygienist. You will find dietaries in Park's *Hygiene*, Hannah's *Hygiene*, and similar works. Two pounds of food a day is a rough average for a healthy man.

Dr. J. P. K., of Ind. "Does the amount of moisture in the atmosphere facilitate the development of spores?"

Ans. Under certain conditions of temperature it does, but not as a constant rule.

Dr. T. F., of N. Y. You will find an article on the use of cold water injections in jaundice in the MEDICAL AND SURGICAL REPORTER, March 2d, 1878, p. 177.

Dr. Miramba. The National Medical Library in Washington aims to contain a complete set of all the medical periodicals published in the United States, and it is, we believe, the only library that does pretend to.

Mr. E. S. We prefer not to express an opinion on your case. Better consult some respectable physician, and when you do so, tell him *the truth*.

MARRIAGES.

SAVAGE—JONES.—In Boonsville, Miss., Oct. 4th, by the Rev G M. Savage, Dr. G. C. Savage and Miss Lessie Jones.

JOLINE—TURNBULL.—On Thursday, October 13, 1881, at St. Luke's Church, Philadelphia, by Rev. C. George Currie, D. D., John Forsyth Joline and Jennie Laurence, daughter of Laurence Turnbull, M.D.

DEATHS.

HALL.—In Oak Grove, Tarrant Co., Texas, Oct. 31, Willie Hall, aged 7 months and eight days, infant son of Dr. E. T. and M. E. Hall.

HARRY.—At Sunny Side, Chester Co., Pa., on August 30, 1881, Dr. Samuel H. Harry, aged 72 years, 4 months and 14 days.